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ABSTRACT

Exploring and working with environmental issues can be exciting and enriching for Head Start staff. The goal of the technical guide is to broaden Head Start staff members' understanding of the natural environment so they can better incorporate environmental enrichment and environmental protection into their programs. The guide is organized into five sections, beginning with three training modules. Module 1, "Caring for Our Children, Caring for Our Earth," examines the Head Start program's overall goals in its work with children and families. This module explores ways that environmental concepts and environmental education can strengthen these services. Module 2, "Environmental Risks and Hazards," addresses staff members' ability to identify, understand, and alleviate environmental hazards, especially those relevant to their programs. Module 3, "Building Communities Which Consider the Seventh Generation," deals with community development and the big picture of environmental health now and in the future. This module encourages Head Start staff to consider practices and policies in this light. Each of the modules provides learning opportunities for workshop sessions and coaching and is organized into the following sections: (1) outcomes; (2) key concepts; (3) background information; (4) discussion/reflection questions; (5) learning activities; (6) points to consider, issues for discussion prompts; (7) additional activities to reinforce the expected outcomes and transfer skills to the work setting; and (8) handouts. Following the training modules, the guide includes a section on continuing professional development presents suggestions for further increasing knowledge and skills. A section on environmental education resources completes the guide. (KB)

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HEAD START®

Training Guides for the Head Start Learning Community

ED 422 061

Sustaining a Healthy Environment

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Administration for Children and Families
Administration on Children, Youth and Families
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Sustaining a Healthy Environment

Training Guides for the Head Start Learning Community

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Head Start Bureau

This national training guide was developed by James Bowman Associates, San Francisco, California, under contract #105-93-1578 of the Head Start Bureau, Administration for Children and Families, Department of Health and Human Services.

Photograph courtesy of Kay L. Hendrich of Kirkland, Washington.

1997

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Preface

A sparrow and an owl were sitting in a forest on a quiet winter day, when the snow began to fall. They sat for a while, listening to the gentle breeze of the wind and watching as sparkling snowflakes covered the trees. Presently the sparrow flew over to the owl and said, "I have a question, Wise One. What is the weight of a snowflake?" The owl replied immediately, "Why it is nothing, next to nothing." "That is strange," said the sparrow. "For just now I was looking at a huge, dead branch of a tree. It sat there for a long time, with snow piled on it. But then one snowflake landed on the branch, and the whole thing swooshed to the ground!"

Head Start programs are made up of many different children, their families and the staff who serve them. All of these people belong to communities, and communities exist within a natural environment. Our understanding of the relationship among all of these is very important.

Exploring and working with environmental issues can be exciting and enriching. It can also be very challenging—even scary. Earth is the ultimate in diversity, made up of many types of living things whose interaction is beautiful, mysterious, uplifting, and sometimes frightening. It is a system, growing and changing every day. Much is unknown. We do know there are toxic substances and dangerous behaviors—both can cause great harm. We must avoid these dangers and work to prevent the development of more toxins. The challenges are big. Often people fear that they can do nothing on their own. The problems seem overpowering.

Sustaining a Healthy Environment was written to demonstrate that, within the Head Start program, staff can do a great deal to ensure that children and families experience the best of the natural environment—right now. Even if you feel there is too much pollution, or some bureaucracy cannot be moved, there are small steps that you can take that will make the situation better in some way. You are the snowflake that brings down the dead wood!

Preface

Head Start staff are experts at making small changes, one at a time. An example is the child who enters the program unprepared for any group experience. Staff work with her, taking one step at a time. Day by day, she becomes a little less shy. By the end of the program year, she is chattering with friends and exploring the playground with gusto. Or take the family whose challenges seem overwhelming at first. But as the family, in collaboration with the Head Start program, looks at one issue at a time, the family's goals get closer to reality.

Sustaining a Healthy Environment is a technical guide in the **Health** series. The goal of this guide is to broaden staff members' understanding of the natural environment so they can better incorporate environmental enrichment and environmental protection into their programs. As we move from the 20th century into the 21st, we are realizing that the health of human beings depends on a healthy relationship with the natural environment. Environmental education must begin very young, and young children—happily—are enthusiastic about Earth and its many beings. They love to explore and learn about their fellow creatures.

We hope that this guide will make you more excited about environmental education, action, and protection. It will help you see the small steps you can take to protect your own health and that of the families you serve. You will see the strength of communities when they work together. Every person is important in working to sustain this amazing environment for our children and for future generations.

Dig in!

Overview

Purpose

The general purpose of this training guide, ***Sustaining a Healthy Environment***, is to increase the skills of Head Start staff enabling them to better address environmental issues in their work with children and families. The guide will help staff to:

- enrich Head Start program activities through environmental education;
- offer parents and children opportunities to learn about environmental health issues;
- increase their ability to identify hazards and prevent environmental illnesses and injuries;
- analyze their own program and come up with practices that protect the environment and prevent practices that damage the environment; and
- advocate for environmental health, environmental justice, and environmental protection in their communities.

Audience

This guide will be most helpful to:

- Head Start directors, site coordinators, policy council/committee members, and others who choose products and establish priorities that can affect the environment;
- health staff who are the lead trainers and the liaisons with other agencies in working to get rid of hazards; and
- education and family services staff who explain environmental concepts to children and families.

Performance Standards

The Head Start Program Performance Standards touch upon environmental health in many ways:

- in requiring Head Start Centers to provide and encourage safe outdoor play for children
- in requiring all Head Start agencies to ensure that staff and volunteers follow safety practices and try to prevent injuries
- in providing safe and wholesome meals and snacks for children, emphasizing food quality, nutritional value and safe handling and storage
- in providing parents the opportunity to learn about occupational and environmental hazards
- in encouraging parents to advocate with other community members for improvements in their neighborhood, which might include protecting something in the local environment
- in providing for a Community Assessment to document a community's strengths, needs, and resources
- in requiring centers to be free of toxins and pollutants
- in attending to the quality of the water the program uses and the safe management of waste products
- in recognizing the importance of inclusive, multicultural programs that encourage children to explore and learn

Orientation to the Guide

Sustaining a Healthy Environment has five sections, including three training modules:

- ***Module 1: Caring for Our Children, Caring for Our Earth***

  Examines the Head Start program's overall goals in its work with children and families. The module explores ways that environmental concepts and environmental education can strengthen the services.

- ***Module 2: Environmental Risks and Hazards***

  Addresses staff members' ability to identify, understand, and alleviate environmental hazards, especially those relevant to their Head Start programs.

- ***Module 3: Building Communities Which Consider the Seventh Generation***

  Deals with community development and the big picture of environmental health now and in the future. It encourages Head Start staff to consider practices and policies in this light.

- ***Continuing Professional Development***

- ***Resources***

Introduction

Module Sections

Each module provides learning opportunities for workshop sessions (12-25 people) and coaching (two-three people). Each module has the following sections:

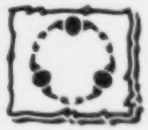
- **Outcomes:** The skills to be acquired by staff who participate in a module's activities.
- **Key Concepts:** The main ideas the module covers. These sections can be used as handouts or overheads.
- **Background Information:** Elaborates on the Key Concepts. This section can be used as a coaching resource or as an outline for a presentation to a group. Background Information sections can also be used for handouts or as overheads in workshop sessions.
- **Questions for Discussion/Reflection:** Listed at the end of each Background Information section. These questions can be used to initiate discussion in workshops and coaching sessions, or serve as prompts for staff journals.
- **Learning Activities:** Build the skills needed to achieve the module's outcomes. Managers can choose to use workshop activities, coaching activities, or a combination. Activities should be adapted to a group's size and composition: the management team, staff from one component area, or staff and board members together.
- **Points to Consider:** Issues listed at the end of each activity to keep in mind or to use as discussion prompts while working through the activity.
- **Next Steps: Ideas to Extend Practice:** Additional activities to reinforce the expected outcomes and help to transfer skills from the training sessions to the work setting.
- **Handouts:** Included at the end of each module. Trainers should reproduce the handouts as needed for participants.

Definition of Icons

Coaching

A training strategy that fosters the development of skills through tailored instruction, demonstrations, practice, and feedback. The activities are written for a coach to work closely with one to three participants.

Workshops



A facilitated group training strategy that fosters the development of skills through activities which build on learning through group interaction. These activities are written for up to 25 participants working in small or large groups with one or two trainers.

Next Steps:
Ideas to Extend Practice

Activities assigned by the trainer immediately following the completion of the module to help participants review key information, practice skills, and examine their progress toward expected outcomes of the module.

Continuing
Professional Development

Followup activities for the program to support continued staff development in the regular use of the skills addressed in a particular training guide. They include:

1) opportunities tailored to the participant to continue building on the skills learned in the training; and

2) ways to identify new skills and knowledge needed to expand and/or complement these skills through opportunities in such areas as in higher education, credentialing, or community educational programs.

Introduction

At A Glance

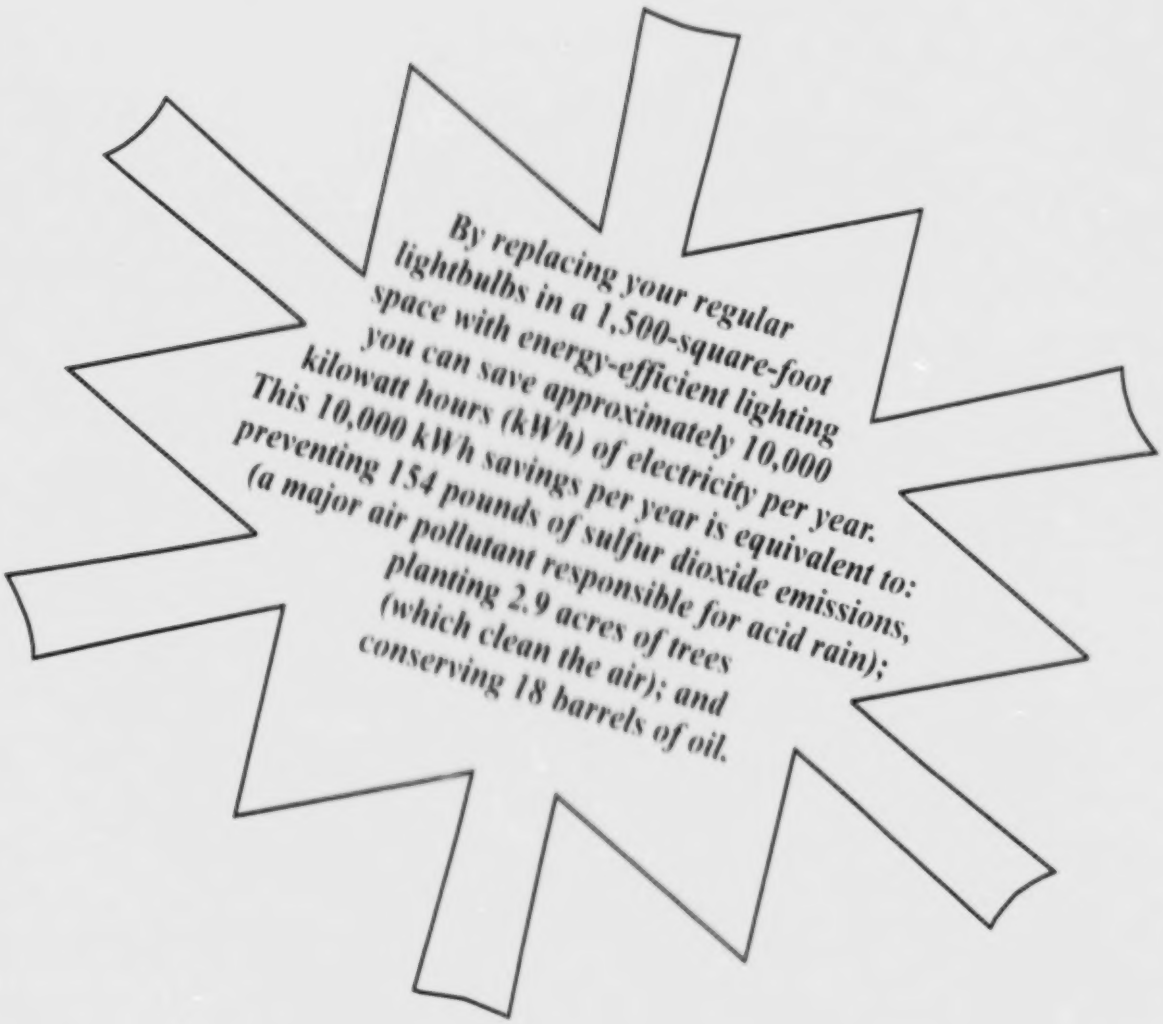
Modules	*Activity*	*Time*	*Materials*
Module 1: Caring for Our Children, Caring for Our Earth	Activity 1: Healthy Environmental Concepts *(W)*	30-45 minutes	Handout A
	Activity 2: Environmental Perspectives & Values *(W)*	45-60 minutes	Handout B
	Activity 3: Standing Up for Our Perspectives & Values *(W) Note: This activity is a continuation of Activity 2*	45-60 minutes	Handout B
	Activity 4: Getting Into the Garden *(C)*	30 minutes	Handouts C and D
	Activity 5: Alejandro & His Earth *(C)*	20 minutes	Handouts E and F Key to Activity 5–*For Trainer Only*
	Activity 6: Good for Our Bodies, Good for Our Earth *(C)*	20-40 minutes	Art supplies: paints, markers, glue, poster board; and magazines
Module 2: Environmental Risks and Hazards	Activity 1: Children's Developmental Stages *(C)*	30 minutes	Handout G
	Activity 2: Is Something in the Air? *(W)*	45-60 minutes	Handouts H-1 – H-4
	Activity 3: An Apple a Day... or Not? *(W)*	60-90 minutes	Key to Activity 3–*For Trainer Only*
	Activity 4: The Unseen Hazard: Testing the Water *(C)*	30 minutes	Key to Activity 4–*For Trainer Only*
	Activity 5: Home Visit Checklist *(C)*	30-45 minutes	Handouts I-1 and I-2
	Activity 6: A New Head Start Center–Green & Beautiful *(W)*	45 minutes	

Modules	*Activity*	*Time*	*Materials*
Module 3: Building Communities Which Consider the Seventh Generation	Activity 1: Hot Spots–Community Map *(W)*	45-60 minutes	Map of your area, tacks, program mailing list, green and blue stars
	Activity 2: Community Helpers *(C)*	60 minutes	Handout J
	Activity 3: It Happens at Home–Pollution or Prevention *(W)*	45-90 minutes	Handout K
	Activity 4: Environmental Advertisements *(C)*	30 minutes	Handouts L-1 and L-2
	Activity 5: To Dispose or To Reuse? *(C)*	45-60 minutes	Handout M
	Activity 6: How Do We Get There? *(W)*	20-40 minutes	Handouts N-1 – N-3 Key to Activity 6–*For Trainer Only*

(W) = Workshop Activity

(C) = Coaching Activity

Please Note: Coaching activities often require the participant(s) to go out into the workplace or the community to talk with others, observe others' behaviors, develop connections with resource people, or analyze an environmental problem. The times given in this chart include **only** the time the participant(s) and coach spend together.


By replacing your regular lightbulbs in a 1,500-square-foot space with energy-efficient lighting you can save approximately 10,000 kilowatt hours (kWh) of electricity per year. This 10,000 kWh savings per year is equivalent to: preventing 154 pounds of sulfur dioxide emissions, (a major air pollutant responsible for acid rain); planting 2.9 acres of trees (which clean the air); and conserving 18 barrels of oil.

Caring for Our Children, Caring for Our Earth

Outcomes

After completing this module, participants will:

- *understand important environmental concepts and discover how environmental health relates to their lives and their work;*
- *identify environmental issues that are important to the various aspects of the Head Start mission;*
- *enrich their program with services to children and families that use environmental knowledge and activities in various settings; and*
- *communicate compassionately and effectively about environmental issues with the variety of people involved in Head Start.*

Key Concepts

Head Start's broad mission—to develop healthy children, strong families, and supportive communities—incorporates environmental themes:

- **We care about our *environment*, the physical space around us.**
- **We are part of an *ecosystem* made up of living beings in relationship with each other and with the natural phenomena of earth, water, energy, and air.**
- **We are interested in *sustainable* systems, those that can go on for many generations.**

Young children have a natural interest in learning about their world. When families and teachers expose children to the larger world, children continue their environmental discoveries. Staff can respond to children's curiosity by providing experiences and planning activities that allow children to explore and make their own discoveries about the local ecosystem.

Families can develop useful skills through community environmental projects.

Developing positive personal health habits runs parallel to developing environmental practices for long-term health and safety. A wholistic health perspective requires attention to both.

Module 1

Background Information

A. Head Start and Environmental Health

Head Start's mission is broad in its aim to develop healthy children, strong families, and supportive communities. Program staff have a commitment to:

- help children to grow and learn;
- help families to improve their well-being;
- build strong and supportive communities;
- attend to the health needs of children in partnership with families;
- support the short- and long-term health of families and staff.

Environmental issues are important to this mission in two ways:

1. How can attention to the environment and environmental concepts enrich Head Start activities?
2. What environmental hazards threaten the well-being of children, families and staff?

Children are inquisitive and active. They need to see and feel things, and the natural environment is full of interesting shapes, textures, and smells. Children enjoy learning about life by getting their hands dirty and seeing things grow. They also have a great need for activity, to be outdoors to run, shout, play, and climb. Head Start programs can—and do—draw many resources from the natural environment to enrich the children's experience in the program. Programs must also be careful to protect children from hazards that they might encounter in their explorations of the world.

Most communities are faced with at least a few situations where the environment needs to be cleaned up. Activities that protect, enhance, or beautify the physical space where families live offer opportunities for developing skills in planning, organizing, and communicating. Families can learn from and feel success from participating in community gardening, cleaning a trash-strewn site in their neighborhood, or recognizing and removing toxic substances from their homes. They can develop very useful skills in communicating and negotiating with public officials responsible for environmental protection.

Health education in Head Start programs focuses on issues that are important in the present and the future. Healthy practices usually have some immediate wellness rewards. We talk with parents and staff about the

importance of developing healthy patterns of eating and exercising early in life, with the intention of preventing later chronic illnesses. Beyond these, a healthy environment also gives pleasure and nourishment in the moment: walking along a tree-shaded street, drinking cool, clean water, watching animals at play. Lifestyles we choose also have an impact on our environment over the long haul. For example:

- Being less dependent on our cars leads to cleaner air and improved physical fitness.
- Overpackaging and disposable products can lead to solid waste/garbage problems in the future.

B. Understanding Our Environment

When asked about their environment, people might think about **natural** features, **social** features, or both. While we recognize that these realms are tightly linked, this training guide focuses on the natural environment. We define this as human beings, the land, water, air, energy, and wildlife—all of which make up the planet.

While our environment is the space around us, the **ecosystem** describes the relationship among organisms and their environments—the web of life. Communities of organisms have evolved on this planet over billions of years, continually using and recycling the same molecules of minerals, water, and air.

Beginning in the 1970s, environmental activists, scientists and policy-makers began to use the term **sustainability** to discuss the linked problems concerning issues of the environment (the health of nature) and development (the progress of humanity). A sustainable practice is one that can be carried on for an indefinite period without harming any part of the ecological system.

A thorough understanding of the environment requires understanding ecosystems and how to sustain them.

> ***Note**: For information and training activities related to the social environment and social aspects of health, see the guides in the* **Social Services** *series, and see the following guides in the* **Health** *series:* ***Laying a Foundation in Health and Wellness*** *and* ***Promoting Mental Health.***

C. Values, Culture, and the Environment

When a person understands environmental concepts, the next step is to make choices to incorporate environmental values into daily life. In the Head Start staff member's daily life, this means planning activities for children that help them understand the environment, and give them a sense of responsibility and appreciation for the environment. It also means working with families and communities to build or sustain healthy local environments. To carry out this work, staff must be aware of the process that people go through in developing an environmental consciousness.

At the first level, people are interested in the comfort of their environments, what they can feel day-to-day. They want a secure social environment: enough money, food, clothing. They also pay attention to the attractiveness of the physical environment: their homes, city, town, or reservation. When people think beyond the immediate environment of their day-to-day lives, they often think about a beautiful "natural" place where they find peace, quiet, and beauty. This might be a local park or a distant wilderness area where they go on extended camping or hiking trips.

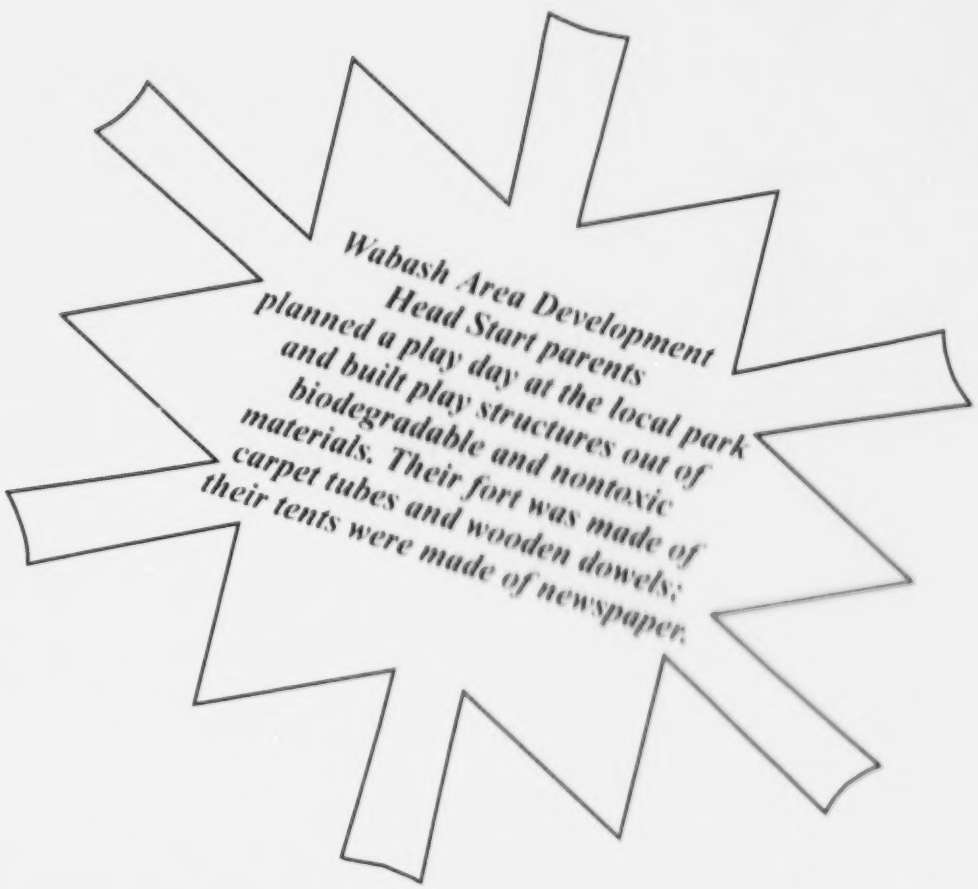
A broader perspective on the environment often brings fear as people realize that all is not necessarily as it appears. For example, they realize that the grass which is so lovely and green was grown with chemicals that have now polluted the drinking water. They worry that now they need to buy bottled water. They might become aware of "bad air" days or the hazards of lead paint in their homes or schools. This focus is on specific health threats to people from toxics that might harm children or adults.

When people think beyond comfort or harm to humans, they begin to think about the ecosytem—not only the human community, but also other inhabitants and aspects of the planet, including animal and plant species, oceans, grasslands, and the air around Earth.

Many things influence how a person thinks of and relates to the environment. One important influence is the person's culture. Ethnic background, language, geographic region, and economics all play a part in defining a person's culture and how she looks at the social world. Culture affects our choices in food and in health services. It also affects our attitudes and behavior around environmental issues.

Questions for Discussion/ Reflection

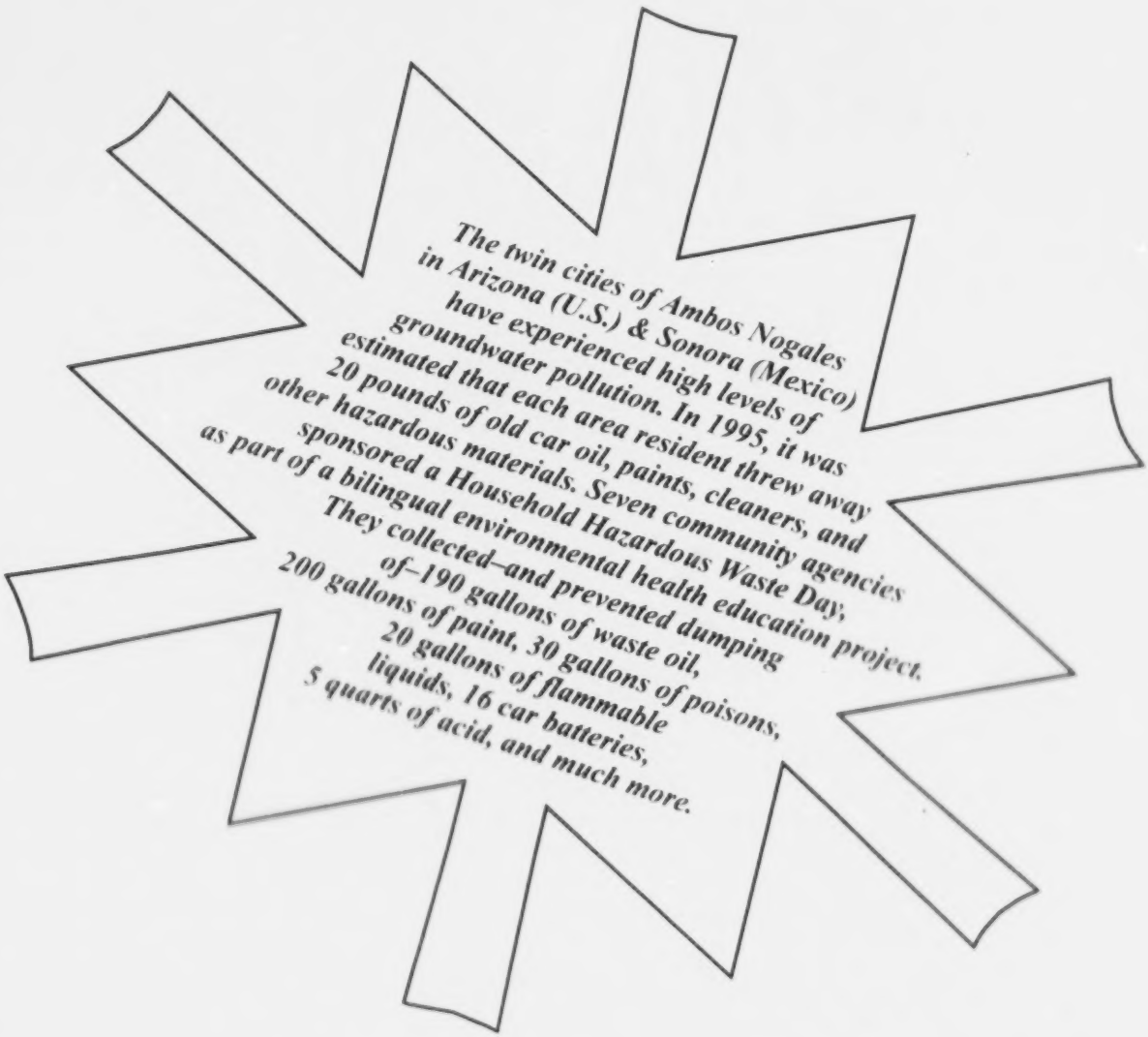
- How do you fit environmental health into Head Start's mission?
- Have you ever seen children delight in the natural environment around them? Do you recollect similar experiences in your own childhood?
- Consider how your own consciousness of our ecosystem developed. Was there a special place that you loved to go that made you aware of natural systems? Was there a pollution problem that made you aware of the delicate balance of nature?
- Are there any special celebrations or rituals with environmental themes that you or your family, community, or church group carry out? How did these celebrations or rituals become established? What is the significance of the celebrations to you and to the group?


Wabash Area Development
Head Start parents
planned a play day at the local park
and built play structures out of
biodegradable and nontoxic
materials. Their fort was made of
carpet tubes and wooden dowels;
their tents were made of newspaper.

References for Background Information

— "Principles of Ecology" by the Center for Ecoliteracy, Berkeley, California, 1996.

— "Sustainability" by Hope Hart, Washtenaw County Department of Environment and Infrastructure Services, in *Environment Section Newsletter*, American Public Health Association, Spring 1996.


The twin cities of Ambos Nogales in Arizona (U.S.) & Sonora (Mexico) have experienced high levels of groundwater pollution. In 1995, it was estimated that each area resident threw away 20 pounds of old car oil, paints, cleaners, and other hazardous materials. Seven community agencies sponsored a Household Hazardous Waste Day, as part of a bilingual environmental health education project. They collected–and prevented dumping of–190 gallons of waste oil, 200 gallons of paint, 30 gallons of poisons, 20 gallons of flammable liquids, 16 car batteries, 5 quarts of acid, and much more.

Activity 1: Healthy Environmental Concepts

Purpose: Participants will understand "ecosystem" and "sustainability" and how these concepts are important in building a healthy environment.

For this activity you will need:

- Handout A: Children's Activity Cards
- Writing materials for each participant
- Flip chart and markers

Step 1: Explain to participants that two major themes weave throughout most environmental discussions and actions. Today they will explore those themes and apply them to activities that they might do in their Head Start programs.

Ask how many in the group already use environmental activities in their work. Congratulate those who do, let them know how helpful their experiences will be in this workshop.

Step 2: Give each group member a piece of paper, then tell them to divide it into two sections. Tell them you will give them two words, and they should write down thoughts on what each word means. Tell them not to think too deeply—just jot down their *first impressions*. Acknowledge that these terms might be unfamiliar to many.

- Give them the first word: **ecosystem.** After a few moments, ask them to stop writing.
- Now the second word: **sustainability.** Give them a few moments to write down their thoughts on that word.

Step 3: Divide the group into two. Ask one section to discuss **ecosystem** and the other group to discuss **sustainability.** Give both groups approximately five minutes to share their definitions among themselves. Then ask each group to appoint a recorder who will report the group's general definition to the large group.

Step 4: Read the sections on ecosystem and sustainability in the ***Background Information***. Then ask each group to share its definition.

Ask whether members of the group differed greatly in definition. Discuss any significant differences in the groups' definitions from the background information.

Step 5: Emphasize that these concepts are important whether we are thinking about the global environment or focusing on our local community. The next step will be to apply these concepts to activities that can be done with children in Head Start.

Step 6: Divide the participants into four groups. Ask them all to focus on their local ecosystem.

- What are the important features of the local ecosystem?
- Why do we love it?
- What makes our area different from other areas in our state?

Fan the cards (cut out from Handout A: Children's Activity Cards) and ask each group to choose one. Each group will plan an activity for a different group of children.

- Group 1: infants through age 1
- Group 2: toddlers (ages 2–3)
- Group 3: a group of young preschoolers, including two children with motor disabilities
- Group 4: a group of older preschoolers who will soon be entering kindergarten

Step 7: Ask each group to plan an activity, or series of activities, that they would lead with their group of children. This activity will help the children to:

- appreciate their local ecosystem;
- understand some things they must do to sustain the health of this place they call home.

Assure the group that all staff—teachers, cooks, family service workers, parent involvement coordinators—have the opportunity to help children learn about the environment. Encourage staff to think about what experiences each role can offer.

Note: *Group 1 will only be able to do the first part.*

Step 8: Ask each group to share its activity. Encourage all to implement some of these ideas in their program.

Points to Consider:

- Be sure that when you define ecosystem, you cover the concept of the web of life and include the spectrum of community members: humans, plants, animals.
- Clarify the definition of sustainability. Encourage the group to think long-term:
  - What do we have to do to keep this place healthy?
  - What should we stop doing?
- Ideas for activities (*see* **Step 7**):
  - *Bird Feeders:* Using cardboard tubes from paper towel rolls, have the children spread suet or peanut butter on the tubes and roll them in seed or oats. Hang the tube outside and watch how many different kinds of birds live in your neighborhood as they come to feed.
  - *Earth in Our Hands:* Adapt the game of hot potato. Have children and parents sit in a circle and pass around a cloth ball representing Earth. When the music stops, the child with the ball "has Earth in her hands." She sits in the center of the circle, recognized as an Earth caretaker. Ask her to tell the group one thing she does to protect the environment. The music continues until each child has moved to the center as an Earth caretaker. Then the whole group moves outside to plant seeds, pick up litter (with gloves on), feed the animals, or otherwise care for Earth.
  - *Cleaning the Water:* Put an inch of water into a small plastic swimming pool. Toss in the type of litter found in your area. Have the children put on latex gloves and use a small fish net to remove the litter. Talk about the source of the litter and sort it into what is recyclable and what is not.

Activity 2: Environmental Perspectives & Values

Purpose: Participants will explore a variety of values related to the environment, and apply their understanding of those values to Head Start situations.

For this activity you will need:

- Handout B: Values & Perspectives
- Posters with statements from **Step 4**
- Writing materials for participants

Trainer Preparation Note:

Before coming to this session, trainer and participants should look through newspapers and magazines for stories about environmental issues. Be alert to other media coverage of controversies. Also think about controversies in your own neighborhood, or in other areas that interest you.

Examples of controversies that are related to basic values:

- *Water Usage—Do we believe that rivers should be dammed and channeled so that towns and farms can have adequate water, or do we value the water needs of wildlife?*
- *Private Property—How much control should people have over their property? Should they be able to build whatever they want? Cut down trees if they choose? Should they be required to adapt their needs for their property to their neighbors' needs? Are their neighbors only humans? Do they include other species?*
- *Big Developments—Is building a new shopping mall on several acres of farmland outside of the city a good idea? What if this farmland produces an important food item for even a small segment of the city's population? What if the shopping mall will offer a lot of jobs to city residents?*

Step 1: Open the session with a discussion of how our values influence how we feel about many things, including the environment and how we should act toward other parts of the ecosystem. Controversies—differences of opinion that get very heated—suggest basic value differences between the opposing parties.

Make notes on a flip chart of the topics raised in magazine and newspaper articles, and of issues that come out of the participants' personal experiences.

Emphasize that there are no right and wrong answers when it comes to values, although societies make rules that eventually define "right" and "wrong" behaviors. Note that the reason we are interested in understanding others' values is so that we can communicate better.

Sometimes it helps to understand *where* the values came from: Parents? Grandparents? The media? Ethnic group or cultural community?

Step 2: Again using the examples, recognize that there are many environmental controversies in North America today—and, in fact, all over the world.

Because the environment really knows no boundaries, what one group or person decides to do affects others. Someone who diverts a stream of water takes water from those downstream. A society that uses a great deal of oil produces great quantities of the gases associated with global warming, and affects the climate of people far away.

Share with the group this idea: In Head Start, we are responsible for teaching children about living with others. Some of this living involves behaviors with environmental consequences. Our work with families and communities may involve understanding environmental perspectives, celebrations, and beliefs.

Step 3: Explain to the participants that in this activity we will explore values related to the environment. Distribute Handout B: Values & Perspectives. Tell the group that the statements in the handout represent a variety of environmental values. They are not all-inclusive. The group may discover other important values.

Step 4: Post this sample set of paired statements on two opposite walls of the room:

#1: We must be sure that clean and abundant water is available for use in our homes, towns, and farms.

#7: The best and highest use of a river is that it runs wild and free to the sea.

Trainer's Note:

Feel free to make up another pair of statements that might be more relevant to the environmental issues facing your community.

Post 8 x 10 inch sheets of paper across the front of the room, with the numbers 2, 3, 4, 5, and 6 written large on them.

Explain that we are demonstrating a spectrum of ideas, ranging from #1 through #7. Although both statements are very strong and concern use of water, the values underlying each statement are very different. People might tend toward #1 or #7, but not feel so strongly. If so, they might represent their opinions as being one of the intermediate numbers.

Ask the group to think about with which statement they most strongly agree. If they fully believe the first statement, their choice would be #1. If they fully agree with the second statement, their choice would be #7.

If they tend toward one or the other statement, but are not 100% in favor of it, then they should choose between #2 and #6. For example, #4 might be: "All the water should be divided evenly between wildlife and human needs."

Step 5: Ask for volunteers willing to share their choice and explain why they feel as they do. Their choice of a statement will be grounded in the relative value they place on the various parts of the ecosystem (in this example of a watershed, the wild creatures or those humans and domesticated animals that use water). How would this value affect the way a person acts? Some examples:

- A child whose family treasures and conserves water will be careful about running the faucet—maybe the child will resist the Head Start teacher's encouragement to wash his or her hands thoroughly under running water.

- A family that does not feel water has any inherent value except for human use may not be concerned about whether the cleaning supplies that go down their drains might pollute local streams or lakes.

- A community might choose to channel a local stream underground and build an apartment house on top, or make a park around the stream, depending on the values of the community.

Step 6: Raise the question of predominant, or "mainstream" values and "minority" or less common values. On the sample issue used in **Step 4**, where do participants believe the majority of staff fall? What about the local community? What about the U.S. population as a whole? What does it mean to hold "mainstream" or "minority" values? How does that affect behavior?

Step 7: Now ask the group to continue through Handout B: Values & Perspectives, marking their feelings about the various statements. Tell them that we will be discussing the handout, but that they will not be asked to share more than they are comfortable sharing.

Step 8: After they have marked their sheets, ask them to choose a partner. Ask the pairs to choose one statement that they both feel strongly about, and consider the following question:

- If two people had values at opposite ends of the spectrum on this issue, what kind of different behaviors would you expect from them?

Give the pairs five minutes to consider the different behaviors. Now ask them to think about the next two questions:

- What are some situations in Head Start where these values might lead to conflict or misunderstanding?

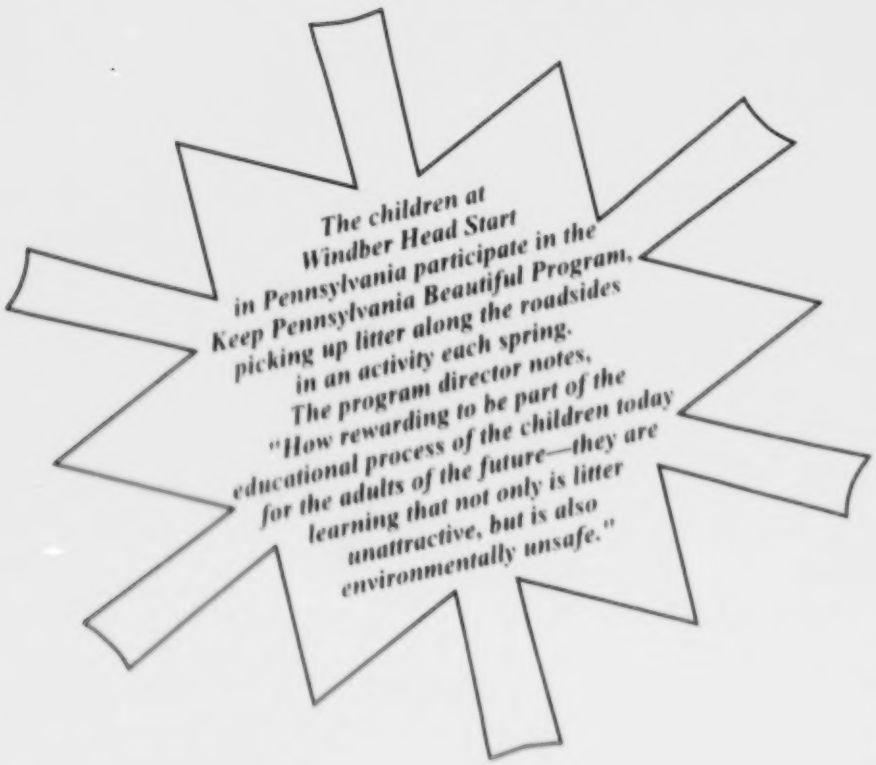
- To resolve a conflict, how would you communicate most effectively with a person holding the #1 value? How would you communicate most effectively with the person holding the #7 value?

Step 9: After 10 minutes of discussion, ask a few of the pairs to share their thoughts with the rest of the group. Close the discussion by highlighting some of the best ideas for improving communication in the face of conflicting values.

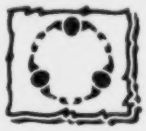
Encourage staff members to reconsider the issues that they brought to the session (articles or ideas) and to think about which underlying values direct the positions of the people on opposing sides of the issue.

Points to Consider:

- People come to their environmental values from various places. Each value has weight behind it.
- Two factors that might be important in developing environmental values are cultural background—including level of comfort with the predominant culture of the area—and level of financial security.
  - Were these important to the staff people?
  - Do they believe that they are important to the families in Head Start?
- Make note of the cultural backgrounds of the participants and how close people feel to their culture of origin. You will likely have a greater variety of beliefs if your group's origins are varied **and** they have not incorporated many of the values and practices of the predominant culture into their lives.
- Is it difficult to discuss environmental values? This is an important area of health, but not so well addressed as individual health has been. Can you see the connection between environmental values and health behaviors?


The children at
Windber Head Start
in Pennsylvania participate in the
Keep Pennsylvania Beautiful Program,
picking up litter along the roadsides
in an activity each spring.
The program director notes,
"How rewarding to be part of the
educational process of the children today
for the adults of the future—they are
learning that not only is litter
unattractive, but is also
environmentally unsafe."

Activity 3: Standing Up for Our Perspectives & Values



Purpose: Participants will plan a Head Start activity which promotes environmental protection or celebration, taking group values about the environment into consideration.

For this activity you will need:

- Handout B: Values & Perspectives (filled out by participants in *Activity 2: Environmental Perspectives & Values*)
- Signs numbered 1 through 7 posted in a line across one long wall, or around the room
- Flip chart and markers
- A group of at least 15 people

> ***Trainer's Note:***
>
> *This activity takes people further along the path explored in Activity 2: Environmental Perspectives & Values. This activity should be done only with groups of staff who are comfortable sharing their values publicly . Be sure that you are comfortable sharing ideas and/or handling conflicts that might arise around any of the concepts.*

Step 1: Explain to participants that they will continue to look at the values explored in *Activity 2: Environmental Perspectives & Values*. This session will explore how groups develop around certain values and then how the groups express those values.

Step 2: Point out to the participants the numbered signs arranged around the room. Tell them they will be asked to look at their copies of Handout B: Values & Perspectives (previously completed) and, that as each statement is read, they will be asked to take a position underneath one of the signs.

Read the first set of paired statements and ask people to choose where to stand. After the groups have formed, ask for volunteers who will share the reasons behind their beliefs. Ask for a volunteer to explain some specific behavior of his that springs from this belief.

Step 3: Repeat **Step 2** for all or some of the remaining paired statements.

Reinforce the concept that there are two important areas about values to explore:

- the source and intensity of the value—whether it has something to do with the person's own experience or the experience or history of the person's friends, family, social or cultural group; how deeply it is held; how many others share it (is it a group norm?)
- the behavior of the person holding this value

In general, the #1 statement indicates a greater value placed on individualism, human superiority in relation to other members of the ecosystem, and technological progress. The #7 statement indicates a greater value placed on natural cycles, scientific or technological caution, nonhuman or spiritual influences, and the importance of the group.

Step 4: As you discuss these values, look for statements that seem to indicate the greatest variation within the group. Are there groups of people at far ends? Note where groupings occur, and talk about how groups form based on values. Some people might call these groupings "cultures," "religions," or "affinity groups."

Step 5: Tell the participants that they will now divide into groups for the purpose of role-playing a meeting at a Head Start program.

Step 6: Help them divide into three or four smaller groups. These groupings should be based on the groupings that developed as you read the paired statements.

Hint for Trainer:

See which staff members hovered around the #1 position for most statements, those who were near the center, and who hovered near the #7 statements. The groupings will not be even because your group will likely hold some majority values (more people feel this way) and some minority values (fewer that way).

Step 7: The task of each group is to suggest ways that their Head Start program will recognize Earth Day. The activities can be celebrations, community actions or educational programs. Expect the suggestions to be different, since the values of the groups are different. Tell them that the statements they read and stood up for are just the beginning of a whole system of environmental values that their group might hold. Encourage them to discuss their perspectives and develop their values system further. Encourage them to be ambitious and not to shy away from ideas that might generate controversy.

Give the groups 10 minutes to prepare their suggestions. Then call them back together and ask for a couple of volunteers to facilitate the whole group Earth Day planning meeting.

Step 8: Allow the planning meeting to proceed for 10 to 15 minutes. Make notes on the following:

- Did the groups differ about how Earth Day should be recognized? Did they express their ideas differently?
- What happened during the meeting that supported and encouraged perspectives from different cultures and groups?
- Was anything done that excluded a group? Especially a minority perspective?
- How was the planned program enriched by a diversity of ideas?

Step 9: Stop the meeting and discuss the planning experience with the group. What issues were raised? What ideas for planning environmental activities involve a variety of cultural perspectives?

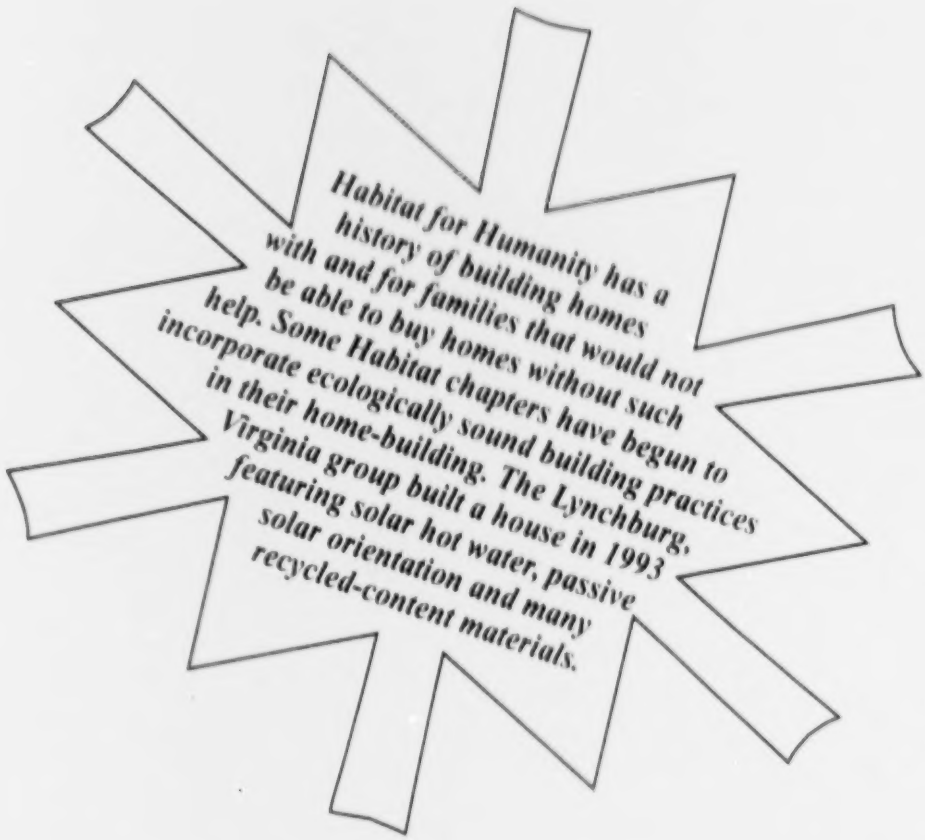
Points to Consider:

- Groups develop for many reasons. One type of "glue" that holds a group together is the values the members share. These values may be related to a number of things, including their beliefs about the ecosystem and how the members of their group fit into the web of life.

- When one group (or individual) holds a minority perspective or position, they (or she) may have a hard time behaving in the way that feels true to them (or her). This doesn't mean that the value is wrong—in fact some minority positions have been proven very right over the course of history!

- Developing programs with input from many people is a hallmark of Head Start. During this meeting, what was important in assuring that a wide range of opinions/values were heard?

- Think about values as a line or a circle. As a line, #1 and # 7 are far apart. But if you draw the group into a circle, they become close neighbors. What common thread can be found among all of the values, even those which appear to be far apart?


Habitat for Humanity has a history of building homes with and for families that would not be able to buy homes without such help. Some Habitat chapters have begun to incorporate ecologically sound building practices in their home-building. The Lynchburg, Virginia group built a house in 1993 featuring solar hot water, passive solar orientation and many recycled-content materials.

Activity 4: Getting Into the Garden

Purpose: Participants will investigate gardens as beautiful places and sites for practical activities of food production, community building, personal growing and healing. The participants will develop a plan for incorporating garden activities/education into their Head Start program.

For this activity you will need:

- Handout C: Thoughts on Gardens
- Handout D: The Food Guide Pyramid
- Writing materials for participants (journals)

Step 1: Tell the participant(s) that this activity is to explore how the Head Start program might be enriched by gardening. Work with staff members who have some interest in gardening.

Consider the location of the program: rural, small town, suburban, big city. Determine whether opportunities for gardening include working farms, community gardens, large private gardens, or container gardens. If the parents' work in the program is active farm work, the goal of this activity will be to design ways to integrate that work into the whole of the program. If parents and children are not familiar with gardening or farming, the goal will be to introduce and engage them in gardening concepts.

Step 2: Provide copies of Handout C: Thoughts on Gardening for review and discussion. Encourage the participants to think about how gardening can be enjoyable, educational, and productive. Ask them to, over the next few days, write a report or journal with the following topics:

- Why is gardening enjoyable and valuable? How should a gardening project be presented to others so they become excited and enthusiastic about the work?
- Currently, how do we present to children the concepts of how food comes to the table?
- What do we now do to promote gardening or to integrate gardening topics into our program?

- What needs of families and staff could be met through a gardening project? Do they need better food? Do they need to understand the value of fresh produce in a nutritionally balanced diet?

- What resources in the community are available for gardening projects? Which Head Start staff members or families already garden? Are there community garden groups? Suppliers of seeds or other garden materials? A university extension office?

Step 3: Meet with the participants to review their reports or journals. Ask if they want to incorporate garden activities into the program.

Step 4: Now offer them the opportunity to take their gardening experience one step further. Here are three possibilities for simple gardening projects:

a. *If they can spend a week on the project:* Ask the staff members to locate a community garden within walking distance of the Head Start Center or within walking distance of some of your families' homes. Spend a few hours in that community garden.

Interview some of the gardeners. Ask how they got involved in the garden: How has their involvement helped them? Has it given them better things to eat? Has it helped them get to know their neighbors? Has it helped them to reduce stress? Would they be willing to share some of their expertise and enthusiasm with Head Start children? Ask questions that will help to plan how to use community gardening in the program.

b. *If they have a month:* Grow a salad garden in a window box in a classroom. Get some seedlings donated: lettuce, radishes, beets, or others. Plant the garden and tend it. Explain to children, families, and Head Start staff who come to see it what they are doing.

Incorporate Handout D: The Food Guide Pyramid into your teaching. Discuss which foods are grown as plants and which are not. Which of these foods grow locally? At the end of the month, harvest the vegetables and make a salad to share. Was this easy to do? Did others seem interested in the production of a salad?

c. *If they have three months:* Start a compost bin. They will need something like a medium-sized plastic file box. It will need a solid cover (wood or plastic), and holes drilled near the top of the sides for ventilation. Layer the following items into the box:

- bottom: a layer of dirt and a handful of "red wriggler" earthworms
- on top: enough slightly damp newspaper strips to cover the dirt and worms

For about 10 weeks, add to the box vegetable and fruit scraps (peels, cores, leaves) that are cut into small pieces. Put the food under the newspaper strips, and cover it up. Add more newspaper strips as needed to cover. They will need to add one to two pounds of food each week. Maybe they can get help from the kitchen staff in the program. Set the box in a well-ventilated place, as compost does develop an earthy smell.

During the process, explain what is happening to children, families and staff members who are interested.

During the eleventh and twelfth weeks, don't add any more food, but observe the box to see when the worms have eaten almost all that they have been given. When most of it is gone, notice that the box now holds high-quality soil. Carefully remove most of the soil, leaving the worms with a small layer of the good dirt. Give the worms some more food to start the process again.

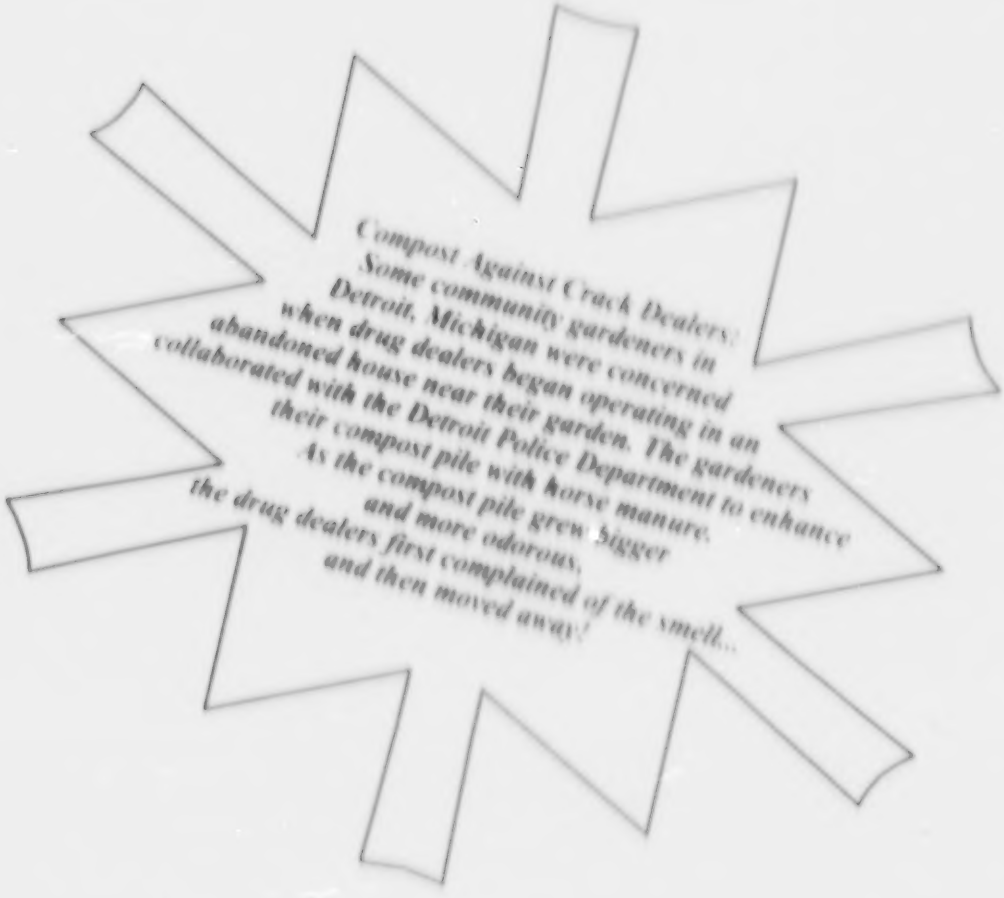
You can plant seed in your soil or contribute it to a garden nearby. If families are interested in growing things, think about how to help them set up their own ongoing compost bins. Community gardening groups are likely to have written information or workshops on composting. One source for materials is the San Francisco League of Urban Gardeners (415) 285-SLUG. They have simple pamphlets on home composting in English, Spanish and Chinese.

Step 5: At the end of the gardening experience, coach and participants present the experience to fellow staff members. What can you all do to incorporate gardening into your program?

Module 1

Points to Consider:

- How close are you and your program participants to farming or gardening? If close, how does it relate to other activities? If not, how can farming or gardening be brought into everyday activities?
- Why have so many people lost touch with gardening and farming? Is this is a great loss? Why or why not?
- Be aware of possible negative experiences with farming, perhaps from families whose farms were unsuccessful, or from farm worker families whose experiences with growing food were backbreaking and unrewarding. If these issues are raised, discuss what makes a growing experience good and what makes it bad. Focus on farming's essential place in our society's food system and on the possibilities of maximizing good experiences through the ability to grow some of one's own food.


Compost Against Crack Dealers:
Some community gardeners in
Detroit, Michigan were concerned
when drug dealers began operating in an
abandoned house near their garden. The gardeners
collaborated with the Detroit Police Department to enhance
their compost pile with horse manure.
As the compost pile grew bigger
and more odorous,
the drug dealers first complained of the smell...
and then moved away!

Activity 5: Alejandro & His Earth

Purpose: Participants will consider the importance of various environmental issues and strategize how to incorporate environmental themes into their work at Head Start.

For this activity you will need:

- Handout E: Alejandro & His Earth
- Handout F: Alejandro's Environmental Issues
- Key for Activity 5: Prompts for Environmental Issues *-For Trainer Only*

Step 1: Tell the participants that we will be looking at a number of environmental issues, considering how important these issues are to the overall ecosystem, how important they are to this Head Start program, and what to do about any of them. Discuss some of the goals of the Head Start program. Give each participant a copy of Handout E: Alejandro and His Earth.

Step 2: Give the participants a few minutes to read over the story.

Step 3: Distribute to the participants Handout F: Alejandro's Environmental Issues. Ask the participants to, over the next few days, think about the story. Ask them to note in the first column environmental issues that were raised. The *Key for Activity 5: Prompts for Environmental Issues* lists topics raised in the story. Review a few of these to prompt the participants' consideration.

Step 4: Ask the participants to consider the next four columns on the chart in Handout F.

Issue	**Importance to Me**	**Importance to Our Head Start Program**	**Importance to the Ecosystem**	**What I Would Like to Do**

Ask them to think about the various issues raised in the story. Ask them to make a mark under the three middle columns: **H** if the issue is of **High** importance, **M** if it is of **Medium** importance, and **L** if it is of **Low** importance.

Step 5: When they have filled out the first four columns, ask them to consider the final column. Is there an issue where they have marked "**H**" in all three areas? If there is one, ask the participants to think about what they would like to do in the next month to incorporate that issue into their work.

Step 6: Meet with the participants again and decide how to put the plan into action.

Points to Consider:

- Today we face numerous environmental issues. It can be overwhelming to try to address them all. Awareness is the important first step.
- After awareness, the questions become: What issues are we willing to work on? How critical are they to me? Different people place priorities on different issues. People will be most likely to incorporate environmental action into their lives—at home or at work—if they perceive the issue is important personally **and** within the larger community.
- Be clear about the process people go through in developing their understanding of environmental issues. Some people might rate every issue low because their priorities lie elsewhere. Perhaps by exploring further, some **aspect** of an issue you will uncover which is important to such people. Perhaps the coach can help in another priority area, thereby "making room" for caring more about the ecosystem.

Key for Activity 5: Prompts for Environmental Issues—*For Trainer Only*

- garbage/solid waste
- recycling
- sunscreen/depletion of ozone layer/risk of sunburn
- water quality/lead poisoning
- indoor air pollution/passive smoking
- outdoor air pollution
- overpopulation
- support of public transportation, walking, or bicycling instead of driving
- tree planting for neighborhood beauty
- avoid rodents and insect pests by storing food appropriately
- prevent food contamination by bacteria/microorganisms
- beautiful park/happy spirit
- lead poisoning on solid objects/paint
- not using disposable supplies
- pesticides on produce
- toxic waste
- water conservation

Activity 6: Good for Our Bodies, Good for Our Earth

Purpose: Participants will develop a parent- or staff-education poster that shows the parallel of environmental health activities to choices for personal health promotion. By tying the environmental health topic to another more familiar health topic, the poster will encourage viewers to realize the importance of environmental health in the overall goal of personal and community wellness.

For this activity you will need:

- Art supplies: paints, markers, glue, poster board
- Magazines for clipping pictures

Step 1: Discuss two concepts with the participants:

- the ecosystem as similar to the human body system;
- the positive things that we do now for our health—or the health of the ecosystem—mean better health now and in the future.

Step 2: Ask them to think about the parallels between the ecosystem and a human body.

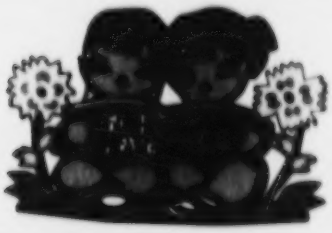
- What can we do to keep our bodies healthy?
- Could this be similar to something we do (or need to do) to keep the ecosystem healthy?

Several examples are listed in the chart on the following page.

Step 3: The task is to develop a poster that illustrates the parallel between human health and environmental health. Give the participant(s) art supplies, including magazines with photographs, colored leaves, stickers, and markers or crayons. Ask them to think of one thing that shows how human health protection is similar to protection of the earth's health. Make a poster to illustrate this idea. Encourage creativity!

Step 4: Display the poster(s) prominently and use them to generate discussion and additional ideas.

Parallels Between the Humans & Ecosystem

	
Keep ourselves warm	Protect Earth's blanket, the ozone layer
Protect ourselves from diseases and use medicines as necessary	Keep our soil healthy for growing food and don't use harmful pesticides
Care for small children and other vulnerable people	Care for Earth's vulnerable animals
To find peace, quiet, and solitude, we go to a quiet place to relax and recharge	Earth needs wilderness preserves
Screen our bodies for illnessess	There are many tests we can do to screen Earth for toxins or for "diseases," unhealthy water, or a hole in the ozone layer
Drink water daily for better health and to purify our systems	Keep rivers and streams flowing freely without pollution

Points to Consider:

- Building a healthy environment has many similarities to building a healthy body. It requires sustained effort over a long time.
- Earth is a living organism just as we are.
- Daily we make many individual choices that lead to personal or environmental health.

Next Steps: Ideas to Extend Practice

1. Evaluate environmental education materials for use in your program. Several vendors are listed in ***Resources.*** Call them for information about their products. A small group of staff members could evaluate the products and suggest which materials might be useful in the Head Start program.

2. Recognizing that people develop environmental consciousness at different times and different paces, allow staff time and space to experience their environment. Give staff some time off to experience for themselves nature as supportive and renewing. This will give them the grounding to convey messages of environmental protection and value to the families.

3. Explore various cultural perspectives on nature, animals, and human beings' relationships to the ecosystem. What do different ethnic or cultural heritages say about the environment? If appropriate, consider developing some activities for children that allow them to experience different cultural perspectives on nature and science. The publication, *Cultural Awareness for Children*, suggests educational activities. See ***Resources*** for more information.

4. Check out food supply organizations such as food co-ops and farmer's markets. Food is a daily need and food production has great impacts on the ecosystem. These organizations can help staff and families learn about food production and nutrition while providing healthful food at lower prices.

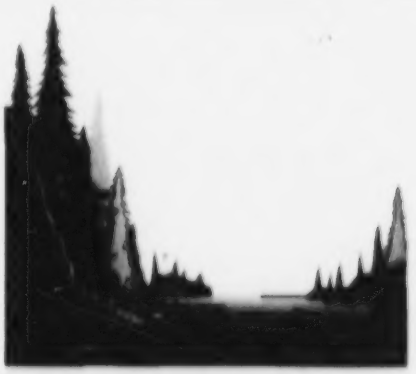
5. Expand on the information about gardening and farming from *Activity 4: Getting Into the Garden*. As an activity at a staff meeting, for example, ask each staff member to bring in a favorite food. With help from the participant(s) in *Activity 4*, trace the path of that food from its beginning to the table. Discuss how to adapt this activity for parents or children.

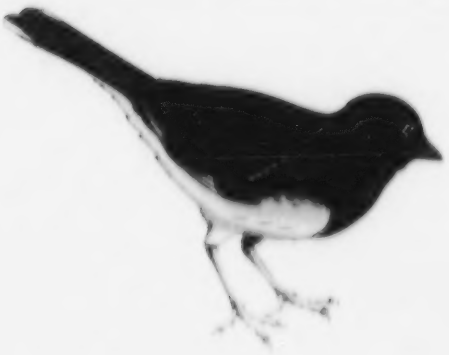
Handout A: Children's Activity Cards

1: You are the teachers for a group of infants six weeks to one-year-old.	**2: You are the teachers for a group of toddlers aged two and three, who are developing normally.**
3: You are the teachers for a group of young preschoolers. They are extremely active. Two of the children have motor disabilities.	**4: You are the teachers for a group of older preschoolers who are preparing to go to kindergarten.**
5:	**6:**

For use with Activity 1

Handout A: Children's Activity Cards *(continued)*





For use with Activity 1

Handout B: Values & Perspectives

Consider the following statements. Mark the point on the scale that best represents your feelings.

1	2	3	← 4 →	5	6	7
Scientific advancements have given us the best lifestyle in the world.						Natural systems are the most stable and trusted, and altering them is generally unwise.
Human beings are Earth's most advanced life form and we may use Earth's resources as we wish.						Human beings and all other forms of life share the planet and have equal rights to life, space, and resources.
If we can see an immediate benefit to a certain technology, with some environmental risk involved, we should move forward with the technology.						If there is the slightest chance of harm to the environment from a new technology, we should do without it.
Modern convenience and comfort are very important to me.						I would prefer to live a much simpler life closer to Earth's rhythms.
What is alive and present and concrete is what is important to me.						My ancestors, their spirits, and the spirits of others affect my life every day.
What is right for the individual is most important.						The well-being of the community takes precedence over individual choices.

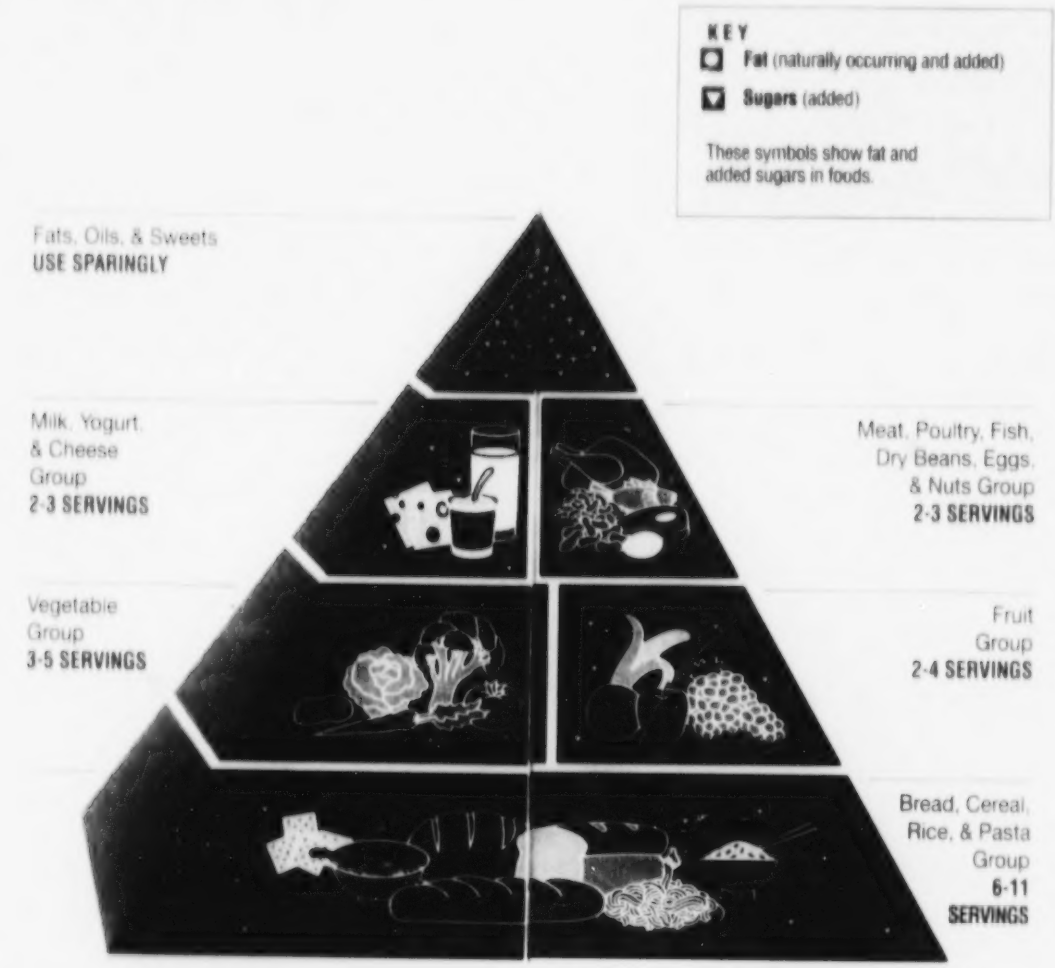
For use with Activities 2 & 3

Handout C: Thoughts on Gardens

The Problem	*The Garden Connection*
Many people are unemployed or underemployed because they have lacked the opportunity to learn needed job skills.	Gardening projects can provide training for jobs in landscaping and horticulture.
Many people feel alienated from their neighbors, unsure of how to connect with them.	Community gardens can be a great way to make friends, share stories, and provide children with fun and productive family activities.
Many families' diets are low in fruits and vegetables because the families consider them too expensive or not tasty enough.	By growing your own fruits and vegetables, you get delicious food at a much lower price. Children may be more likely to eat a variety of fruits and vegetables if they have helped in growing them.
People often feel they have limited control over their lives.	Growing food is an achievement that can nurture and delight an adult or child.
Some people are shy and uncomfortable interacting with others.	People can become engaged with the living things in the garden as a nonthreatening way to build other relationships.
Patience is in short supply in North America.	Tending a garden teaches patience in a wonderful way.
Sometimes we become detached from our bodies' needs during growth and development.	A garden gives daily lessons in the process of growth, demonstrating what sustains, and what harms or halts.
Children are growing up without really knowing how food comes to their table.	By growing food of their own to eat, children learn a critical part of our lives: agriculture.
Many communities lack quiet spaces where a person can be close to nature.	Gardens give people a quiet space to see plants and wildlife, and get a better feel for changing seasons.

For use with Activity 4

Handout D: The Food Guide Pyramid–A Guide to Daily Food Choices



What is the Food Guide Pyramid?

The Pyramid is an outline of what to eat each day. It's not a rigid prescription, but a general guide that lets you choose a healthful diet that's right for you.

The Pyramid calls for eating a variety of foods to get the nutrients you need and at the same time the right amount of calories to maintain a healthy weight.

The Pyramid also focuses on fat because most American diets are too high in fat, especially saturated fat.

Source for *Handout D: The Food Guide Pyramid*

USDA, Food and Nutrition Information Center, National Agricultural Library, Agricultural Research Service. www.nal.usda.gov/fnic/gen.

For use with Activity 4

Handout E: Alejandro & His Earth

Three-year-old Alejandro wiggles in his bed. It's still a bit dark outside. He awakens and hears a garbage truck. His big sister Tatiana hops out of bed and says, "Come on, Alejandro, time to get up!" Alejandro's mom comes in and helps him dress, making sure to put sunscreen on him and on Tatiana before they get completely dressed.

Alejandro asks for a drink of water. His mom runs the tap and looks concerned because the water is the color of rust. She mentions to Alejandro's father that they might need to talk to the landlord about getting the water tested.

At breakfast, Alejandro's dad has the TV on to check the weather report. The weatherman is talking about an air quality alert, warning people to avoid vigorous activity today. Alejandro's mom looks worried. Alejandro has asthma. She says to his dad, "It's great that Alejandro's breathing has been better since you quit smoking, but I still worry about these bad-air days."

Tatiana is taking some pictures to school for a project on ancestors. She has a picture of her grandpa and his 14 brothers and sisters. Tatiana asks her father why their family doesn't have so many children. He laughs and, hugging Tatiana and Alejandro, says, "Two children is plenty for your mom and me to love!"

After breakfast, Alejandro and his mom walk Tatiana to school before getting on the bus to his Head Start center. They admire the new little trees that were planted all around the school in a neighborhood project. They had lots of fun that day and although the trees are little, they make the block look nice. His mom settles him in at his center, kisses him and hurries off to work.

Alejandro helps get the crackers out at snack time. The school had been having problems with mice and ants in the building, but got a local company to buy big plastic containers with brightly colored lids and matching little cups and plates for the children. These new containers will prevent mice and insects from getting in the food. Alejandro's uncle works for the county health department, and is meeting with the teachers and children to talk about bugs and mice. He told them, "Some bugs are our friends ("Like ladybugs!" yelled Alejandro), so we don't want to hurt them. But, we certainly don't want them in our food." Uncle Paul also talked to the center cook about how she stored milk and cheese, and how the dishes are washed and rinsed with sanitizing solution. Everyone is very careful to keep the milk refrigerated until snack time and to put it and the macaroni and cheese right back in the refrigerator after the snack.

For use with Activity 5

Handout E: Alejandro & His Earth *(continued)*

Later that morning, the children go on a field trip to the nearby park. It is only a small park, but it is full of bushes and flowers and has a nice grassy space for running. The day is not yet unbearably hot and the big trees at the edge of the park provide shade. Alejandro breathes in the smell of the flowers and rolls in the grass. The teachers have planned this time to go to the park to take advantage of the lull in traffic when there is less air pollution. The children are very disappointed because the big airplane on which they used to climb has yellow streamers all around it. The teacher asks a gardener why the plane is roped off. The gardener tells her that the health department found lead in the paint on the plane and it will have to be removed.

After lunch, Alejandro helps to clean up, washing the new dishes and cups. The center doesn't use disposable plates and cups anymore so it doesn't need as many garbage cans outside now. There are several recycling containers and the children enjoy sorting the papers and helping the teachers put out the cans and bottles.

Alejandro's grandpa picks him up from the center, and they go to the new little market that just opened down the street. Grandpa likes this new market because it has fruits and vegetables just like he got when he was growing up on the farm. "Just water and good earth," says Grandpa. "We don't need all of those fertilizers and bug-killers." Grandpa has two string bags bunched up in his pocket and he and Alejandro each fill one.

As Alejandro and his grandpa approach their block, they notice several people in a vacant lot. Their neighbor Tomorrie is there with a City Council member. Tomorrie has been working very hard to get the City Council to remove some barrels full of poison that have been stored there by a company with headquarters in the suburbs. Tomorrie and some other neighbors also tell the City Council member that they oppose the plan to run a new freeway on-ramp off a street nearby. "There are too many cars on our streets already," she says.

When they get home, they find that Alejandro's mom and uncle have just finished installing the new toilet. The Water Department had a special program to give families toilets that use less water with every flush. Alejandro is excited to go potty and watch the big "whoosh" as the water circles down.

Tatiana picks their bedtime story that night. It is called *Just A Dream* and is about a little boy who doesn't take care of Earth at all. He has a bad dream about what the world will become if we don't take care of it. He learns to recycle, plant trees and prevent water pollution. Alejandro drops off to sleep happy that **he** helped take care of his Earth today.

For use with Activity 5

Handout F: Alejandro's Environmental Issues

Issue	Importance to Me	Importance to Our Head Start Program	Importance to the Ecosystem	What I Would Like to Do

Environmental Risks and Hazards

Outcomes

After completing this module participants will:

- *have a better understanding of environmental hazards and how they threaten the health of individual children and adults;*
- *be able to search out, evaluate and use information to assess the magnitude of risk from different hazards; and*
- *take steps to prevent environmental illness and injury in Head Start facilities.*

Key Concepts

Preventing exposure to environmental hazards is a critical piece of the total picture of health protection, health services and health education in Head Start.

Many hazards exist in homes, schools and communities. These hazards affect the health of children and adults. Exposure to hazards comes from four main routes, and protection strategies can be planned for each route:

- **air (indoor and outdoor)**
- **water**
- **food**
- **building materials and household products**

Because of their behavior and their physical development, children are uniquely exposed to and affected by environmental pollutants.

A number of environmental concerns must be addressed to provide safe and healthy facilities for Head Start program staff and families.

Background Information

A. Toxic Substances, Environmental Consequences and Human Health

For most of the thousands of years of human history, the environment was a powerful, all-enveloping force. People had to adapt their behavior to climate, storms, pestilence, and other forces beyond their control. Many people lost their lives through injury or illness related to natural forces. But, in the past few hundred years, human beings have "tamed" nature in various ways. We have altered natural systems to give ourselves a comfortable, more predictable life. These alterations range from the development of the automobile and related vehicles to vaccines and antibiotics, pesticides and fertilizers for crops, and systems for air conditioning and heating our homes.

Until the 1950s and 1960s, these improvements were seen by most people as completely beneficial. People saw that science could improve their lives by offering convenience and comfort, protection from illness, and a wider variety of food at lower prices. But, during the second half of the 20th century, two things happened: First, the pace of development and release of unnatural substances into the environment increased dramatically; second, people began to notice and name **toxicants** that are harmful to human health and the health of other members of the ecosystem.

How have things changed? How fast? A few examples follow:

- At least 70,000 man-made chemical compounds have been invented and dispersed into the environment; 300 new substances are created each year.
- In 1993, an estimated 4.23 billion pounds of pesticides were used in the United States.
- The amount of lead "available" in our environment—meaning present in forms which can damage humans—is hundreds of times greater than that "available" in the 1950s.
- In 1960, 6.3 billion pounds of plastics were produced. By 1991, production had increased tenfold to 62.8 billion pounds. Of this total, 276 million pounds were used to make disposable diaper liners and 1.8 billion pounds were made into plastic trash bags.

Awareness of the toxins' harmful effects came slowly. Rachel Carson's *Silent Spring* (1962) woke up many people with its details of the effects of pesticides on wildlife. Health care providers began to tie various negative health effects in children to lead poisoning. Increases in asthma and other respiratory illnesses were correlated with air pollution. Acute poisonings

from polluted water and pesticides drew attention to the toxicity of a variety of chemicals and raised questions about the chronic effects of these chemicals. When they were used over long periods of time, we began to see strains of antibiotic-resistant diseases, such as gonorrhea and tuberculosis. Agricultural pests and lice also developed resistance to the insecticides used to control them.

A Note About Terminology:

Three words are commonly used to describe harmful substances, which can be either naturally occurring or man-made: toxic, toxin, and toxicant.

- ***Toxic**: Often used as a noun, toxic is more correctly used as an adjective—e.g. toxic air pollutants, toxic waste—describing something poisonous.*
- ***Toxin**: The term toxin is used by scientists in a limited way to describe the toxic protein-like product of a living organism, such as snake venom.*
- ***Toxicant**: The most inclusive term, a toxicant is any substance that produces toxic effects.*

In this training guide, we use these terms interchangeably.

B. Assessing Risk

The sheer volume of potentially toxic products that surround us seems almost overwhelming. It is easy to see why many people decide to either (1) ignore the problem and hope it will go away or (2) become frantic in trying to eliminate all risks from their lives.

However, what we all really need to do is to learn to assess environmental risk, and take steps individually and collectively to minimize those risks. This module discusses protection from individual risk, then *Module 3: Building Communities Which Consider the Seventh Generation* explores the collective action that can have larger impact.

What is a risk? A risk is a **chance** that something harmful or unwanted will occur—depending on what a person does or is exposed to.

Some environmental risks are clear-cut. We know that breathing air contaminated with cigarette smoke is hazardous; several illnesses result from the exposure. We also know that certain levels of lead in the

bloodstream can have damaging effects. The risk assessment, however, becomes much more complex when we consider the long-term effects of low-dose exposure to toxins.

An extra challenge in assessing risk from an environmental toxin is that no one is exposed to only one risk. Regulations and manufacturers' guidelines set limits on the exposure a person can receive without harm from a given substance, but they do not consider that people might be exposed to several different substances. These substances generally do not act independently, and can work together to multiply the toxic effect.

For someone to decide whether to avoid a certain environmental risk, he first needs **information.** With the information, a person can make a **judgment** about which risk is acceptable and which—for a variety of reasons—is unacceptable.

Scientists ask questions when faced with the possibility that a substance is harmful. Then they evaluate the information in the answers.

- *How many studies were done to show that this is harmful?* It is unwise to rely on one study or one incident of harm to determine that there is a general risk. The determination should be based on several studies done with good scientific methods.

- *How strong is the association between the supposedly harmful substance and the harmful effect that we see?* If a group of people exposed to a certain substance have a lot more cases of a disease than a similar group who are not exposed, then there is a strong association. If only a few more cases, the association is weak.

- *Does increasing the "dose" increase the chance of harmful effects?* If a child with asthma has little trouble breathing when the air is clear, but wheezes more as pollutant levels rise, that is a "dose response." It suggests that air pollution makes her asthma worse.

- *Does this harmful effect make sense given what we know about human biology?* For example, we wonder if a certain toxicant affects the offspring of workers who are exposed. Let's say that the workers, men and women, were all exposed at age twenty. They all have children ten years later. Some children have birth defects.

  Did the toxicant cause these? Well, maybe yes for the women; probably not for the men. Why? Human biology. A toxicant that affected a group of women who were twenty years old might very well affect the children they conceive ten years later because women's egg cells are present in their bodies from their infancy. However, since men's sperm cells are not present from infancy, the

men's exposure to the same toxicant at age twenty would be less likely to affect children they help to conceive later.

Once the information is in, it is time to make a choice. **Do I change what I do, where I live, what I eat—so that I reduce my risk of a harmful effect from some substance?** As with other health topics, the facts are only part of educating people about risks to their well-being. People might be more or less concerned with environmental risks depending on several factors.

- *Is the risk voluntary or involuntary?* Many people accept the risk to their families from the smoke of their own wood stove (voluntary), but are unwilling to accept the county planner's decision to put a highway nearby, which will increase auto exhaust (involuntary).

- *Can I do anything to control my personal risk from this hazard?* Someone might be aware that the public water supply is not safe, but block out the information because he cannot do anything about it. Or, he might respond to warnings of the risk and make some helpful changes, if he has information about something concrete that he can do to reduce risk to himself.

- *Is this risk clear and obvious or is it something that might happen some time in the future?* People usually pay more attention to risks that have immediate, observable effects. They either ignore or have vague worries about risks that accumulate over time.

- *Where is this information about risk coming from and is the source trustworthy?* People have learned that false information can come from all sides of an environmental question, and they have been confused by well-meaning scientists unable to explain risks in understandable terms. People are more likely to make changes that are recommended by a trusted person or organization.

In communicating about environmental risks, we must pay as much attention to people's concerns and perceptions of risk as we do to "the facts." Their concern, and our response to that concern, will be as important to their ultimate decision about what to do about a certain risk as will be the information we provide.

Head Start staff, because of their trusted position in their communities, can be valuable sources of information for families. People can easily be misled by sensational information and overreact to a sensationalized risk. Staff can assure that scientific information is clear and that bureaucrats and decision-makers respond to concerns. By considering the questions in this section, staff can take a critical look at a supposed risk, interpret information for families, and help them decide what to do.

C. Risks and Routes of Toxic Exposure

Thousands of substances can cause harm to human beings. To help staff to plan strategies to protect children, families, and themselves from these hazards, we have organized the substances into routes of exposure.

It is important to recognize that the following overview of risks only lists some broadly distributed toxins. Risk varies by region throughout the United States. For example, people working with pesticides or living near farms will be more exposed to those substances; those in the Northeast have more exposure to radon; those who live near heavy traffic will be more exposed to ozone and nitrogen dioxide.

With thousands of chemicals circulating in our environment, pinning exact cause and effect is tough. It took many years, many studies, and much argument to document that cigarette smoking **does cause** lung cancer. The effects of the toxins in the following tables are not unquestionably proven. The effects have been demonstrated in animal studies, or studies of humans, or both.

One thing to note: Scientists can measure many things, but are much less able to pinpoint the exact effect of a certain substance on health. For example, they may know that a nursing mother's milk contains a certain chemical, but they are unsure about that chemical's effect on her baby.

For the toxicants listed in the following tables, the intensity or severity of the response to the exposure will vary. Just as some people smoke cigarettes and do not get lung cancer, some people are exposed to environmental toxics and do not seem to be affected. Most of the following substances, however, are deadly if the exposure is great enough.

It should also be noted that illnesses or injuries caused by toxins—unless they are high-dose, acute exposures—can creep up on a person over time. Signs and symptoms might suggest another common illness but not respond to treatment. It is important to consider environmental damage as a possible cause for any illness.

Some Toxicants in Air

What It Is	Source	Effects
Tobacco smoke	cigarette smokers, includes a variety of pollutants	irritates lung passages; impairs oxygen transport; leads to respiratory illnesses, lung cancer
Carbon monoxide	from incomplete combustion of fuel: stoves and autos	blocks the red blood cells' ability to carry oxygen
Ozone	formed from a combination of nitrogen and hydrocarbons (auto exhaust & industry) and sunlight	damages the respiratory tract; causes difficulty in breathing; asthma
Particulates	tiny particles of dust, soot, auto exhaust	impaired lung function; asthma; increased respiratory illness
Radon	a breakdown product of naturally occurring uranium; seeps into homes and schools	lung cancer
Electric and magnetic fields (EMF)	electric charges from any power line or electric appliance	biological changes in cells; possible association with cancer
Ionizing radiation	nuclear power plants, atomic weapons testing/use, nuclear waste storage sites	various cancers
Ultraviolet radiation	the sun	damages and wrinkles skin; causes skin cancer

Head Start has taken an important step in protecting children, staff, and families from air pollutants by banning smoking on the premises. The chart above highlights other pollutants.

The various types of radiation are included in the "air" category because they are all around us.

Module 2

Some Toxins in Water

What It Is	Source	Effects
Pesticides	appear in water supply as runoff of agricultural or landscaping use	• acute: nervous system damage, skin irritation, gastrointestinal distress • chronic: damage to nervous, immune, or reproductive systems; cancer
Lead	plumbing solder	damage to nervous and circulatory systems; learning disabilities and anemia
Microorganisms (parasites, bacteria)	sometimes found in well water, occasionally in public water systems with inadequate treatment	a variety of gastrointestinal illnesses
Dioxin	industrial processes; breakdown product of chlorinated compounds	various cancers
PCBs (Polychlorinated biphenyls)	electronic components	skin rash; liver cancer; central nervous system damage

We know that water is essential to life, and good nutritional practice encourages drinking many glasses of water each day. There is evidence that toxic chemicals can seep into water supplies (either surface or ground water) from a number of sources.

Lead, of all the heavy metals that contaminate water, has drawn the greatest amount of attention in recent years. Other metals that contaminate water include cadmium, aluminum, mercury, selenium and/or nitrates, depending on the area.

Some Toxicants in Food

What It Is	Source	Effects
Pesticides	residues on food products, mostly fruits and vegetables	• acute: nervous system damage, skin irritation, gastrointestinal distress • chronic: damage to the immune, reproductive, or nervous systems, cancer
Microorganisms (parasites, bacteria)	improper food handling and storage	gastrointestinal illnesses (e.g., diarrhea and vomiting)
PCBs (Polychlorinated biphenyls)	electronic components; concentrated in the fatty tissues of fish	skin rash; behavioral disorders; liver cancer

One of Head Start's important goals is to provide nourishing food for children. Another is to build healthy eating habits among all program participants. We consider levels of sugar, salt, and fat in the food. Nutritionists advise us to eat several servings of fruits and vegetables each day.

Food safety is important to any food program. There are two general ways that food could be contaminated and unhealthy. Microorganisms can contaminate food at the farm or factory, or through unsafe food preparation practices at the Head Start center or home. With fresh fruits and vegetables, there might be residues of pesticides or other chemicals. In August 1996, the growing concern about contamination of fresh produce resulted in the passage of a new law, the Food Quality and Protection Act of 1996. This law changes some of the ways that pesticides have been regulated. For the first time, specific information about the effects of pesticides on infants and children is considered.

There is great regional variation in food growing practices and in eating practices. Some people eat more apples, others more meat. The greatest risk of PCB ingestion is faced by those whose diets are high in fish caught from lakes and bays that have been polluted by PCBs.

Module 2

Some Toxins in Building Materials/Home Products

What It Is	Source	Effects
Formaldehyde	pressed wood (much is used in mobile home construction), particle board, and carpets	irritates skin and respiratory system; headache; gastrointestinal distress
Lead	paint on walls, sills, etc.; pottery; cosmetics	nervous system damage; learning disabilities; anemia
Asbestos	building insulation	skin irritation; lung cancer
Home cleaning/pesticide products	cleaners; bug sprays; chemicals for landscaping	skin irritation; childhood cancer; nervous system effects
Organic solvents	products used to dissolve grease and paint	cancer; skin irritation

Many products used in the home are very toxic.

In 1786, Benjamin Franklin wrote to a colleague and described the signs of lead poisoning he had observed among workmen in different countries. Two hundred years later, the problem of lead poisoning is still with us, mainly affecting children. Lead is a widespread substance, and exposure to this toxin can occur through many routes. Since the 1970s, lead exposure through air has dropped with the elimination of leaded gasoline and lead exposure through food has been reduced by removing lead from the canning process. Children still encounter lead through paint in older buildings or in the soil around those buildings. Because small children put everything in their mouths, they can easily ingest lead from toys, dirt, paint chips, or window sills.

Asbestos was used widely for many years in insulation. Workers have suffered from lung cancer as a result of their contact with this substance. Now, if asbestos is in place and intact, it does not pose a risk for users of the rooms where it is found. If it is disturbed—through flaking, peeling, or construction/renovation activities—it can be very harmful and must be removed by specially trained and experienced workers.

D. Who Is at Risk?

Environmental contaminants present a risk for everyone. Effects on adults range from acute episodes of poisoning to chronic exposures. Workers with toxic substances are the usual victims of acute exposures, from spills of pesticides or contact with cleaning supplies, for instance. An example of a chronic exposure is the experience of asbestos workers who developed lung cancer many years after their work with the substance. Another example is damage to reproductive systems in men and women who work over time with toxic chemicals. There is also some concern about reproductive damage from general exposure to chemicals in the day-to-day environment.

From conception through adolescence, children are physiologically different from and behave differently than adults. In general, the younger the child, the more potentially damaging is an effect from a toxic exposure.

Children's immature organ systems are especially sensitive to environmental hazards. Exposures might disrupt and cause permanent damage to developing nervous, immune, and respiratory systems of young children. Children's metabolic processes are quite different from adults': they absorb toxic materials more easily than adults through their skin and through their respiratory and gastrointestinal systems. They are also less able to detoxify, metabolize, and excrete certain toxins and so are more vulnerable to adverse health effects.

Children's behavior is also very different from adults'. Older children are outside more and engage in more active play. Infants and toddlers spend a great deal of time on the ground, lying or crawling, and putting all that they can reach into their mouths. They eat more fruits and vegetables than do adults and drink more water. Children are closer to ground level, and are exposed to toxins in the soil and in the air that is closer to the ground.

Children with disabilities are due special attention. A visually impaired child, for example, is more likely to work close to an art or craft project and breathe toxic fumes. Children with mental or emotional disabilities might not be able to follow safety precautions.

Tolerances for exposure to many toxic substances are established by manufacturers and government regulators. There are several reasons to be skeptical of tolerance limits and health protection. Health may not be protected, even when tolerance levels are not exceeded, because the limits:

- may have been set many years ago, with little information on acute effects;

- may not consider multiple exposures to a number of substances, which could interact with each other; and
- are usually not set for children, but for healthy, adult males. A "tolerated level" of a substance might expose an adult to a level that does not cause harm, but the child's exposure **per pound of body weight** is much higher. Children also have (hopefully) more years ahead of them than adults, so that the exposure might continue for a longer time.

Therefore, many child health experts are warning that children are not adequately protected by tolerances set for toxins in air, water, food, or building materials.

The experience with lead poisoning is an example of greater knowledge leading to establishing much lower tolerances, or action levels. Early in this century, people were not aware that low levels of lead in the bloodstream could cause damage to children; only acute lead poisoning with dramatic and damaging effects was known. As researchers documented effects on children at lower levels, the tolerance was changed. The Centers for Disease Control and Prevention (CDC) now considers a blood lead level above 10 mcg/dl unacceptable.

E. Head Start Facilities

Head Start programs are required to choose facilities that are conducive to learning, reflect the stages of development of each child, and are safe and healthy places for staff and family members.

Some important issues to consider in selecting facilities are:

- quality of the air (indoor and outdoor)
- drinking water supply
- landscaping and whether its care requires a lot of fertilizers and/or pesticides
- presence of toxic substances (e.g. lead, asbestos, hazardous waste) in soil, wall surfaces, or building materials
- overall energy usage of the facility—type and amount
- availability of wholesome food and clean, safe storage and preparation facilities

Consideration should be taken of the facility itself, the surrounding area, and the area through which children, families, and staff travel in the normal course of their Head Start day's activities.

Construction or renovation of facilities entails another set of questions that must be addressed, as construction could disturb or uncover toxins that otherwise would not be a problem. Examples are the need for specially trained workers to abate the problems raised by lead, asbestos, or serious soil contamination.

Note to Trainer/Coach:

This training guide takes an ecological approach to toxins, exploring those that cause damage to humans and others in the ecosystem. There are many other substances that are not inherently toxic, but can be dangerous if misused. There is also the issue of safe structures—design and shape—in the Head Start environment.

The latter two issues are explored in the **Health** *guide* ***Safety First: Prevention and Management of Childhood Injuries****. You will also find information and activities related to the environment and communicable diseases in* ***Preventing and Managing Communicable Diseases****.*

Questions for Discussion/ Reflection

- How do you feel about the changes in the ecosystem during your lifetime? Which changes have been good? Where have you seen harm?
- Think about risk. What changes have you made to reduce your risk of illness or injury? From any cause? From environmental hazards? What information did you receive? How did you make your judgment?

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To unclog drains without resorting to possibly harmful chemicals, do the following: Mix one cup baking soda, one cup salt, and one cup of white vinegar (mixture will fizz). Let it stand for 15 minutes and then pour the mixture into the clogged drain. Follow up by pouring in several cups of boiling water.

Activity 1: Children's Developmental Stages

Purpose: Participants will consider the developmental tasks and behavioral characteristics of children up to age five, and determine how to minimize risks during their Head Start experience.

For this activity you will need:

- Handout G: Children's Developmental Stages & Environmental Risks

Step 1: Meet with the participant(s) and discuss the children in your program. Do you have infants, toddlers, and/or preschoolers? Talk a while about the major characteristics of children in each of the groups you serve:

- *newborns:* tiny, completely dependent, immobile
- *infants:* begin to be mobile, frequent eating and sleeping
- *toddlers:* begin to explore, get into everything, put everything in their mouths, don't like "no"
- *preschoolers:* very engaged in their world, social, will do what others do (even if dangerous)

> ***Coach's Note:***
>
> *You may wish to use the* **Education** *guide,* ***Enhancing Children's Growth and Development****, to expand your discussion of children's developmental stages. For another activity that expands on this concept, see* Module 1: Understanding Injuries *in* ***Safety First: Preventing & Managing Childhood Injuries*** *from the* **Health** *series.*

Step 2: Give each participant a copy of Handout G: Children's Developmental Stages & Environmental Risks. Select one age group of children for the participant to focus on.

Based on your discussion in **Step 1**, fill in the top section of Handout G. Note behavioral characteristics of children in this age group. Review the information on routes of exposure from toxins and children's special risks from the ***Background Information.***

Step 3: Make notes in each of the sections on "air," "water," "food," and "building/home."

- What special risks can you think of for a child in your chosen age group?

Step 4: Give the participants some time to observe children of this age in the program. Take a few days with your chart, and consider what these children do and how they might be exposed to toxicants. Continue to make notes.

Step 5: After noting your observations, think about what you can do in your program to make things safer for children of this age.

Step 6: Meet with the participant(s) to discuss how you can make the changes necessary to protect children at their specific developmental stages.

Points to Consider:

- Children's behavior differs according to age. Try to look at the behaviors carefully through the lens of environmental risks.
- Consider how you will protect a child of a certain age.
  - Will you change the area or will you restrict the child?
  - Which is preferred?
- With preschoolers, how do you develop the concept of safe risk-taking? For example:
  - Jumping off a low climbing structure with adequate padding and supervision is an acceptable risk.
  - Jumping into a concrete ditch near a farm field would be too much risk.

Activity 2: Is Something in the Air?

Purpose: Participants consider a variety of situations to improve their alertness to the possibility of environmental illness or injury. They identify the steps to take when faced with such situations, and who in the community can help.

For this activity you will need:

- Handouts H-1 through H-4: Stories
- Writing materials for participants

Step 1: Briefly review for your participants the ***Background Information*** section on routes of exposure for toxins. Emphasize that many illnesses can be caused by environmental exposures, though they seem just like illnesses caused by other factors. Many health care providers are not trained to look for environmental causes, and are not alert to the possibility of exposure.

Head Start staff do not diagnose illnesses, but they do have two important roles:

- being alert and aware of possible environmental exposures so they can help families see these exposures as part of their health histories;
- linking families to appropriate experts or health care providers when needed.

Step 2: Divide the participants into four groups. Ask each group to assign a recorder/reporter. Give the participants in each group a copy of Part I of the stories from Handouts H-1, H-2, H-3, or H-4. Each group should have a different story.

Step 3: Allow the groups 10 minutes to review Part I of their story and to discuss it. Post on the flip chart the following questions for them to discuss and report on:

- What signs and symptoms did the ill or injured person exhibit?

- What is your first thought on what might be wrong?
- What more do you want to know?

Step 4: After 10 minutes, ask the participants if they have some ideas of what could be causing the problem. Ask whether they need more information. They will likely say yes. Tell them that a good way to get more information is from a family member or friend who can give background on the affected person's activities, and home.

Step 5: Ask for one person in each group to volunteer to be the family member or friend. Give this individual Part II of the story for that group. Ask the person to share that information with his group.

Step 6: Give the groups another five minutes to discuss the story in light of additional information. Add a fourth question to the flip chart:

- How do you plan to offer help?

Step 7: When the groups are ready to report back, ask the first one to summarize its story and respond to the questions on the flip chart. When the report is finished, encourage the other groups to offer additions and suggestions.

Step 8: In their responses to the questions, each group should have noted that they want to consult someone from the community who has expertise in environmental illness.

Step 9: Now ask for another volunteer from each group. This person will be the community expert. Give this person Part III from Handouts H-1, H-2, H-3, or H-4 for that group and ask him to describe the toxin responsible for the illness. Affirm that collecting information and making contacts are important roles for Head Start staff.

Discuss how staff members can develop relationships with experts in environmental health in their local community.

Trainer's Note:

Be sure to note that a community practitioner would respect the individual's confidentiality and not give out information on diagnosis. This is a training situation only!

Points to Consider:

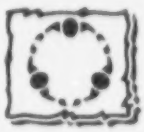
- When a person is sick, an environmental cause is usually not considered at first. We want to train ourselves to ask questions about and be open to the possibility of an environmental cause every time.
- Notice the similarities among illnesses caused by environmental factors and other causes.
- Be clear in your discussions about the Head Start staff role in any of these situations. Avoid diagnosis, but be knowledgeable about who in the community has the expertise to deal with an environmental illness or injury.
- Be alert to family situations. Head Start staff will often be closer to family situations than outside medical providers or health experts. Head Start staff may add valuable information in a consultation.
- If you notice a group of similar signs or symptoms in children or families in your community and you suspect that there may be an environmental cause, call your local or state health department or the Agency for Toxic Substances and Disease Registry at (404) 639-0615.

Sources for *Activity 2: Is Something in the Air?*

- ATSDR Case Studies in Environmental Medicine. Chlordane Toxicity. September 1993.
- Etzel, R., Indoor Air Pollution. *Pediatric Annals*. December 1995, Vol. 24 (12), 653-56.
- Landrigan, Phillip and Herbert Needleman, *Raising Children Toxic Free: How to keep your child safe from lead, asbestos, pesticides, and other environmental hazards*, 1994.
- Sherman, Janette D. *Organophosphate Pesticides—Neurological and Respiratory Toxicity*, Toxicology and Industrial Health, Vol. 11 (1), 1995.

Module 2

Activity 3: An Apple a Day...or Not?



Purpose: Staff members will develop skills in risk assessment and communication. They will create a framework for this type of evaluation by working through questions related to three fresh foods.

For this activity you will need:

- A large blackboard or paper to draw a chart
- Markers
- Key to Activity 3: Fruits & Pesticides Fact Sheets *For Trainer Only*

Step 1: Begin the discussion with a review of the importance of nutrition to Head Start's services. We are all committed to providing the safest, healthiest food for children and promoting healthy eating habits. We want to give families information so that they can maintain good nutritional habits or improve their diet. But what about pesticides? Is there a risk to children? Are some fruits or vegetables better to serve than others?

Step 2: Review the concepts in the ***Background Information*** on "Assessing Risk." During this activity apply the framework outlined there to the question of pesticide risk from fresh fruits. Assure the group they won't be asked to engage in the highly technical and scientific process of risk assessment, but only to do a lay person's assessment.

Step 3: For this activity, ask the group members to imagine that they are a committee that is choosing foods for use in their center's meals and snacks. Tell them that three suppliers have offered to deliver fresh fruit every week: one offers apples, the other strawberries, and the third bananas. Imagine that, up until now, your program has had to rely on mostly canned or frozen fruits and vegetables because of your location and the foods' costs. You can only make arrangements with one fruit supplier. The parents want this because enough fruit will be delivered for the families to purchase some for home at a very low price. However, several staff members and parents are concerned about the pesticide residues on produce and want the committee to find out if any or all of these fruits are safe for the children to eat.

First, talk with the group about the benefits of eating apples, bananas, and strawberries. Make notes on the flip chart as to what nutritional value these foods have.

- Do children like them?
- Are there other benefits?

Ask the group what questions they think they need to have answered if they are going to make a decision about the safety of a certain food. Draw the large chart (a sample chart with information for the trainer follows) on the blackboard or flip chart without filling in the spaces. As the group comes up with questions, fill in the chart with them. Develop your entire list of questions before you begin to work on the answers. You will want to be sure to elicit the questions noted in the *Key to Activity 3: Fruits & Pesticides Fact Sheets–For Trainer Only*. Your group will probably come up with additional valid questions.

Sample Trainer's Chart

Questions	Source of Information	Answers		
		Apples	*Strawberries*	*Bananas*

Step 4: When you have enough questions, ask the group to brainstorm where to go for the answers. Who in your community could answer these questions? This information will fill the next column.

Step 5: Now fill in the answers to the questions with information from the *Key to Activity 3: Fruits & Pesticides Fact Sheets*.

Step 6: Discuss your conclusions about the safety of serving any of the three fruits to the children in the program.

- What is your decision?
- Which fruit do you want to incorporate into your program?
- What is your conclusion about the healthfulness or safety of the others?

Review for the group how you came to this conclusion. Emphasize that this same process can be carried out to assess risk from another product.

Step 7: Now ask the group members to consider how they would explain their decision about fruits to other interested staff and parents in the program. Imagine that each of the three fruits has its boosters, and that someone will be unhappy with the choice of one and the exclusion of the others.

- What would be most difficult about sharing this information?
- Which facts does the committee need?
- Which emotional issues will be the most important to consider?

Step 8: Divide the participants into two groups. One group (of three to four people) will be the committee. The other group will be other staff and parents or family members of children in the program.

Step 9: Give each group about 15 minutes to prepare for a meeting during which the committee will present its conclusions about the fruits and plans for protecting children's health. The large group should be prepared to ask questions or voice concerns. Think about the diversity of family members in your program.

- How are family members likely to respond to your presentation about concerns over children's exposure to pesticides from the fruits?
- Will some group members be concerned about possible exposure?
- Will others think that this whole idea is irrational and that we should eat fruit without being concerned about pesticides?

Step 10: Call the group back together and ask the members to hold a mock meeting. Ask the committee to begin their presentation. You can play the role of the center director, welcoming parents and introducing staff. Allow the meeting to proceed for 10-20 minutes.

Step 11: After the meeting, debrief:

- What do you feel the committee did well?
- Were they clear?
- Was the committee responsive to parents' concerns?
- Did the committee offer concrete suggestions?
- What do you suggest to improve the discussion?

Consider the main points in risk assessment and communication, applying them to this issue as outlined in the ***Background Information.***

Assessment:

- What information do we have on this issue? Which stories? What anecdotal evidence?
- How strong is the evidence of harm? What do we know about people who have been extensively exposed to pesticides? Have they been sicker than those with less exposure?
- How much of this fruit do children eat? What does this mean in terms of their "dose" of pesticide exposure?
- What do we know about children and their bodies?

Communication/Judgments on Action:

- Is this risk voluntary or involuntary? What does it mean that children don't have choices in the food that is provided to them?
- Can we do anything personally to control our individual risk? Can we do something that controls the risk for our own Head Start community, even if we can't tackle the larger problem?

- Do we have a risk right now, or is it something that might be a problem in the future?

- Have we presented ourselves as a trustworthy source of information?

Step 12: Using the blackboard or flip chart, outline the most important facts and communication issues to consider in talking about risks and making decisions about risks with families in your program.

Points to Consider:

- People who have researched pesticide residues on fruits and vegetables do not suggest giving up these foods. Fruits and vegetables, grown with or without pesticides, are important to everyone's diet. The researchers recommend being aware that there may be risk, and trying to reduce exposure in any way practical:

  - buying produce in season, recognizing that out-of-season crops are more heavily treated

  - choosing fruits and vegetables grown in this country rather than those grown outside the United States under less stringent regulations

  - purchasing organically grown produce

- Researchers also recommend that while acting to protect ourselves, we should work to see that changes are made in regulations to protect all from combined exposures. Children especially are not well protected.

- Where fear is associated with such a highly charged topic as pesticides in food, it is important to search for reliable information and avoid making a hasty judgment.

Key to Activity 3: Fruits & Pesticides Fact Sheets—*For Trainer Only*

Part I: General Information

- Pesticides are chemicals. Most are synthesized from petroleum but some are of natural origin. Pesticides are used to control pests such as insects, fungi, rodents, and weeds.
- In 1991, in the United States, 817 million pounds of active pesticide ingredients were used in agriculture—more than two pounds per American.
- Pesticides are also used widely in home gardens, lawn care, landscaping, and golf courses.

Major Types:

- organochlorines or chlorinated hydrocarbons
  examples: DDT, chlordane, heptachlor, dieldrin
- organophosphates and carbamates
  examples: parathion, malathion, Diazinon, alidicarb

Some Costs and Benefits:

- Effective against pests (at least in the short term)
- Easier and cheaper than hand weeding or crushing or washing off insects
- Allow crops to be cultivated where they otherwise would not grow, so that different crops are available at different times of the year. Fungicides prevent mold and prolong storage time.
- Some pests now are resistant to pesticides, and some environmental contamination has occurred in farming areas because of pesticide use.

Regulation and Tolerances:

- Pesticides are governed by two laws: the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and the Federal Food, Drug and Cosmetic Act (FFDCA). Tolerances are maximum residues permitted in food; these amounts are a fraction of the amount that causes harm in test animals. Sometimes the tolerance considers whether a person would be exposed to a particular pesticide from more than one source; however, it does not consider whether the person might be affected by a few different pesticides that have a synergistic effect. These tolerances may have been established many years ago, before all effects were known. They are usually defined for adult, healthy males, and for an "average" adult diet. The Food Quality Protection Act of 1996 requires consideration of effects on children.

Key to Activity 3: Fruits & Pesticides Fact Sheets—*For Trainer Only (continued)*

Part II: Questions & Concerns

What tests have been done to determine harmful effects? What other information do we have?

- All pesticides are dangerous; they are poisons designed to kill some sort of living thing. Some are dangerous when touched or eaten—the effect is immediate and dramatic. Some do not affect people or other creatures immediately if exposed, but remain in bodies and in the environment.
- Tests on animals have shown health effects at various levels of exposure. In nature, effects on wildlife have been documented.
- There have been many incidents of farmworkers becoming ill from exposure to pesticides. There have been occasional examples of people in the community becoming sick from eating food contaminated by pesticides (for example: alidicarb on watermelons in 1985). Pesticide exposures (not necessarily from eating) have been proven to cause:
  - Skin disorders and rashes
  - Cancer
  - Nervous system effects
  - Reproductive system effects

How strong is the association between exposure and harm?

- There are no documented studies of children becoming sick or being adversely affected from eating foods with pesticide residues on them, if the residues are lower than the tolerance.
- There has been very little research on long-term effects of regular exposure to pesticides in the diet.

Where did the fruits come from? What is used on them?

- If these crops are grown in your area, use local information. If not, assume that the bananas came from Central America, the strawberries from California, and the apples from New York.
- If a product comes from outside the country, it may have been treated with a pesticide that is banned in the United States. Usually we don't know which pesticide has been used.

Key to Activity 3: Fruits & Pesticides Fact Sheets—*For Trainer Only (continued)*

Part II: Questions & Concerns, continued

Questions/ Concerns	Apples	Bananas	Strawberries
What do we know about children, apples, strawberries, and bananas?	• Infants under one year old consume six times the national average of apples. • On a body-weight basis, one-year-olds consume five times as many apples as adults. • The average two-year-old consumes 16.4 pounds of apples per year. • Preschoolers eat five to 20 times the national average of apples.	• Infants under one-year-old consume five times the national average of bananas. • One-year-olds eat seven times the national average of bananas. • Two-year-olds eat 13.4 pounds of bananas per year.	• The average two-year-old eats 1.9 pounds of strawberries per year. • Per capita consumption of strawberries in the U.S. increased 70% from 1978-91.
Which pesticides are used?	• 34 different pesticides might be used on apples. • In studies done by the FDA in 1990-92, 64% of the sample apples tested had one or more pesticide residues on them.	• 14 different pesticides might be used on bananas. • 38% of the bananas tested had one or more pesticide residues on them.	• 38 different pesticides might be used on strawberries. • 75% of the strawberries tested had one or more pesticide residues on them.
Nutritional benefit?	• Good source of dietary fiber.	• Good source of potassium, some fiber.	• Good source of dietary fiber and vitamin C.

Key to Activity 3: Fruits & Pesticides Fact Sheets—*For Trainer Only (continued)*

Part III: Suggestions for Finding Information & Reducing Risk

- Check into organically grown fruit. Is it available? Is the price comparable? Can the Head Start program get a good price or influence the farmer's pesticide practice because Head Start buys a large quantity?

- Consider what nutritional benefit derives from the fruits you have considered. In which other foods can you find similar vitamins, minerals, protein or carbohydrate benefits?

People and organizations that might have information for you:

- County extension agents, local farmers, local stores (especially those concerned with the issue who are checking into residues), the Environmental Protection Agency office in your area, agriculture groups, environmental groups.

Sources for *Key to Activity 3: Fruits and Pesticides Fact Sheets:*

— National Research Council. *Pesticides in the Diets of Infants and Children.* National Academy Press. Washington, D.C., 1993.

— Wiles, Richard and Christopher Campbell. *Pesticides in Children's Food.* Environmental Working Group. Washington, D.C., 1994.

— Elderkin, Susan L. "Pesticides in Produce: What We Can Do To Protect Our Children." *PTA Today.* November/December 1994.

— *Children, Pesticides and Schools.* National Campargn Against the Misuse of Pesticides. Washington, D.C., January 1996.

Activity 4: The Unseen Hazard: Testing the Water

Purpose: Participants will look for environmental hazards, understanding that many are unseen, and become familiar with methods used to test for toxic substances. They will become better able to communicate with families and children about unseen hazards.

For this activity you will need:

- Water samples from a variety of places
- Information from your water department or health department about local water quality
- Key to Activity 4: Water Qualities–*For Trainer Only*

Step 1: Prepare for this activity by acquiring jars of water from several local areas; for example, from a tap at home, from the Head Start Center, or from a river or stream near the center. Be sure that you have one sample that is a muddy or sandy spadeful from a pond, lake, stream, or ocean. You might ask the participant(s) to bring a container with a water sample, too.

Step 2: Begin by asking the participant(s) to look at the variety of water samples. To understand environmental hazards, the first step is using our own knowledge and powers of observation. Tell them that in this activity we will be considering how the ecosystem includes many things that are unseen; some are helpful, others harmful.

Environmental health specialists have developed tests to determine when an unseen harmful substance is present. In working with families, it is helpful to know enough about these tests that you can respond to environmental concerns with facts. If we don't understand how facts about toxins are uncovered, we are more vulnerable to believing and being swayed by sensational reports about toxins or more likely to accept bland assurances that everything is fine.

After the participant(s) examine the water samples, ask for their thoughts about water:

- How important is water to health?

- Do you have concerns about the water you use?
- What do you know about water quality, the source of water in your community and water processing?

Step 3: Reinforce the idea that drinking several glasses of water each day is healthy. Because water is such an important part of everyone's diet, it is important to be sure that it is clean.

> ***Trainer's Note:***
>
> *Review the* ***Background Information*** *on toxins in water and* **Key to Activity 4: Water Qualities–For Trainer Only.**

Step 4: Now take note of your spadeful of muddy water. We see substances in it that we know we don't want to drink. Unfortunately, we do not know whether the other samples, which are clearer, are healthy either. Note that many pollutants are not visible to the unaided eye.

Ask the participant(s) if they can think of other unseen hazards. Examples might be:

- in air: carbon monoxide, radon gas
- radiation from X-rays or the sun
- forces from electric or magnetic fields
- pesticide residue on food
- lead in paint

Since we can't see these toxicants, how do we know they are there? How do we know they are harmful?

Step 5: To determine whether toxins are present, we would ask several questions. We will use water as the example, but these questions could be adapted for other situations. Some questions to start with are:

- Do we know whether any harm has come to anyone from drinking local water?

- Where does our water come from?
- What do we see when we look at the water? (We will use our senses first, though we know some toxicants cannot be detected in this way.)
- What invisible toxicants might be in our water?

> ***Trainer's Note:***
>
> *Use* **Key to Activity 4: Water Qualities–For Trainer Only** *to coach these questions.*

Step 6: Ask the participant(s) to look over the information you have collected on the local water supply.

- What are the main issues about water in your area?
- What tests does the water department use to assure purity?

Step 7: *(If your water supply* ***is*** *safe and healthful)* Discuss strategies you will use to encourage water consumption among children, staff, and families.

- What should you be doing to ensure that your water supply **stays** clean and safe?

Step 8: *(If your water supply* ***is not*** *safe and healthful)* Discuss strategies to either improve the water quality in your area through linkages with other organizations and interested people, or to protect individual families from contaminated water.

Points to Consider:

- Water is important to all of us. We need to be aware of our local water system and what risks there might be.
- Because water is so essential to life, it is frightening to think of it being polluted.
- How do we go about dealing with potential contamination without unduly alarming people?

- How do we communicate about contamination when the contaminants can't be seen?

- One problem in alerting people to environmental hazards is that many hazards cannot be seen. Unless people get sick, it is difficult to become concerned about water quality if the water looks clean and fresh. It is difficult to convince people about the risk from radon gas, since it cannot be seen and has no smell. Having concrete test results can help.

The average toilet uses five to seven gallons of water per flush. By replacing existing toilets with low-flow (1.5 gallon) toilets, the average home or workplace could save hundreds of gallons of water each week. Existing toilets can be made more water-saving by placing a couple of bricks in the tank to displace some of the water.

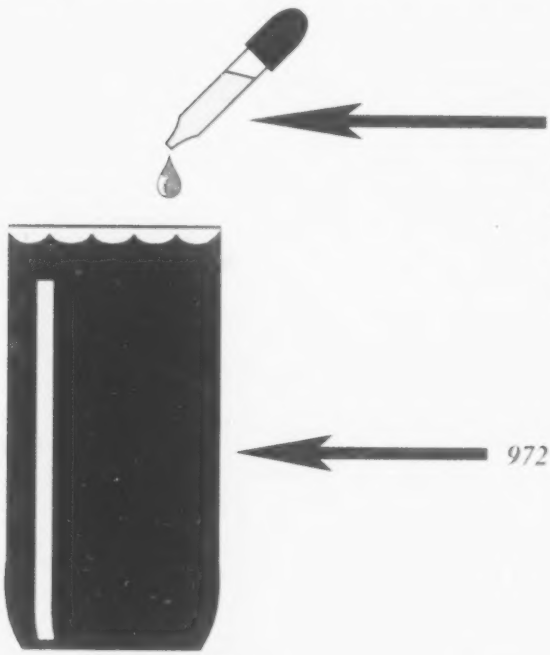
Key to Activity 4: Water Qualities—*For Trainer Only*

Where Does Our Water Come From?

- Most of Earth's water is unavailable for drinking. Drinkable water comes from ground water sources (aquifers and wells) or surface water (rivers, lakes, and streams). The risks for various types of water pollution vary with the source of water. Agricultural runoff might contaminate ground water beneath the fields first, but ultimately could get into other water locations. Surface water is susceptible to contamination through debris or microorganisms carried by the wind. Water drawn from wells, and not monitored as part of a public water supply, needs frequent testing to assure purity.

How Much Water Do We Have?

- Imagine that all of Earth's water can fill a one-liter glass. The water comes in the following forms:



28 ml fresh water made up of:
23 ml ice caps, glaciers
4 ml ground water
2 drops surface water
1 drop atmosphere & soil

972 ml salt water

How Does Our Water Get to Us?

- Water supplies vary from region to region. It all comes from fresh water (surface or ground), then goes through a piping system to get to our homes, offices or pumps. Contamination in the transport system is possible. Water that travels through old, corroded pipes might pick up lead from the solder used on the pipes. Well water is more likely to be contaminated with microorganisms than is a publicly treated municipal water supply (from ground or surface water).

Key to Activity 4: Water Qualities—*For Trainer Only (continued)*

What Are the Characteristics of Our Local Water?

- *Milky color when drawn from tap:* The water has lots of air in it, clears once it settles.
  Is it harmful? No.

- *Rusty color when it comes from faucet:* The pipes have some corrosion that colors the water.
  Is it harmful? No, but you might want to run the water for a bit to clear the standing water, which is discolored.

- *It is difficult to get soap bubbles to form:* Water can be hard (full of minerals, such as ground water) or soft (without minerals, such as snow melt). Soft water is "hungry" so it will absorb and use whatever is put into it. Hard water is "full of stuff" so that the first part of the soap that is put in it gets used to neutralize the minerals. You need more soap to get suds.
  Is it harmful? No.

- *Water looks clear and fine, but people get sick from drinking it:* Water could be contaminated by microorganisms, chemicals or metals.
  Is it harmful? Yes.

What Is the Fluoride Content of Our Water?

- Fluoride is a natural trace element found in small and varying amounts in almost all water supplies, plants, and even our diets. At the proper concentration in drinking water, fluoride reduces dental cavities. Where the local water supply does not have the necessary level of fluoride occurring naturally, some communities add fluoride to the water. Other do not add fluoride, and children in those communities need regular topical fluoride treatments to protect their teeth.

What Do We Do If the Water Is Contaminated?

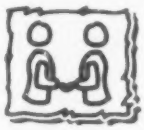
- *With lead:* Run the water for a few minutes each morning before you drink from the tap. This will flush out the standing water, which will have higher concentrations of lead. Fill a jar with the cleaner water and keep it in the refrigerator for drinking or filling baby's bottles.

- *With microorganisms:* Boil the water for three minutes or use purifying tablets.

Source for *Key to Activity 4: Water Qualities:*

– *Water: The resource that gets used and used and used for everything!* American Water Resources Association, Bethesda, Md., 1991.

Activity 5: Home Visit Checklist



Purpose: Staff members will improve their awareness of toxic substances and hazardous conditions in the home, and be able to discuss these with families during home visits.

For this activity you will need:

- Handout I-1: Home Visit Checklist
- Handout I-2: Did You Know...?
- Writing materials for participants

Step 1: Meet with your participant(s) and review the background information for this module. Note the types of toxins that might be found in a home. This activity will give the staff member the experience of combining environmental awareness with communication about concerns during the home visit.

Step 2: Review the general framework of a home visit.

- What can this staff member do to ensure that the family feels comfortable during the visit?
- How does she talk with the family to find out whether they worry about the health of their children or adult members of the household?
- Have family members told her they are concerned about an environmental hazard?

Discuss how she addresses the family's environmental concerns.

- Is the staff person comfortable with this topic?
- Does she have contacts with outside agencies and/or written materials she can give the family to help them reduce the hazards? If not, help the staff member make those contacts.
- How alert is the staff person as she observes the home? Does she notice possible hazards such as peeling paint, the use of pesticides, and type of heater?

Step 3: Give the participant(s) a copy of Handout I-1: Home Visit Checklist.

Go over the questions together. On the left side of the page are observations and suggestions for areas where there might be an environmental concern.

The right side of the page lists which hazards to attend to if certain conditions exist in the house. Be sure the participant(s) feels comfortable with what to do and how to talk with a family if an environmental hazard is uncovered.

Handout I-2: Did You Know…? is an alternative form of the same information. Choose which format to use.

Step 4: Ask the participant(s) to use the handout in at least two home visits during the next couple of weeks. She could share the handout with the family if that seems appropriate, or review it prior to the visit to remind herself to keep an eye out for possible hazards.

Step 5: Meet again with the participant(s) to review the home visits.

- What hazards did the family bring up as concerns? What hazards did you notice that the family had not mentioned?
- How difficult was it to communicate with the families about environmental hazards? Were you able to address the concerns raised by the family and incorporate suggestions about other hazards into your discussion?
- When did you need help? What other members of your community did you have to draw in?

Points to Consider:

- Although we hope that we will be safe in our homes, a number of possible toxins could be lurking there. It is important to be aware of the potential toxicity of common hazards such as secondhand smoke, household pesticides, and lead in the water.

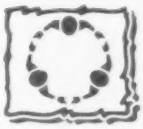
- Families are concerned about many things, and their highest priority may not be possible environmental hazards. The staff person must respond to the family's concerns first. When bringing up the possibility of danger to household members from environmental hazards, it is best to tie this particular danger into an already expressed concern of the family member. For example:

  - If a mother is concerned about her baby's frequent colds, the staff person could mention the connection between parents' cigarette smoking and child's respiratory infections.

  - If a father mentions how difficult it is to keep the house warm, it might be a good opening to discuss the various heating and insulating options available to this family and the environmental impacts of each option.

- Some exposures can be reduced through personal choices; a person can quit smoking or choose not to use toxic substances for pest control. Some exposures will not be under a family's power to change. If they live in a rented house or apartment with lead contaminants in the water pipes, they can't fix the pipes. But, they can **reduce their personal risk** by running the water to flush out contaminants before drinking.

Activity 6: A New Head Start Center—Green & Beautiful



Purpose: Staff members will develop a checklist for the environmental features they know to be essential in purchasing or building a new Head Start center.

For this activity you will need:

- Writing materials for participants
- Flip chart and markers

> ***Trainer Preparation Note:***
>
> *This activity will be most effective if your program is planning to purchase, build or renovate a new facility in the near future. If you are not, you may adapt these ideas to an evaluation and plan for improvement in your current center.*
>
> *You may wish to review the* **Key for Activity 4: Prompts for Environmental Issues–For Trainer Only** *from* Module 1-Activity 4: Alejandro and His Earth, *and the* ***Head Start Facilities Manual*** *for points to be sure to include. Also useful would be the* **Education** *guide* ***Enhancing Children's Growth & Development.***

Step 1: Explain to participants that this is a brainstorming activity to develop ideas for an ecologically oriented, toxic-free Head Start center. This activity is what an architect would want you to do before she would begin designs for the new center.

On the flip chart, make two columns: "What We Don't Want" and "What We Want."

Step 2: Encourage participants to think about the current center.

- Which features are environmentally positive?
- Which features do we want to avoid?

List ideas on the flip chart. Add positive ideas which are not in the present center, but which you want in the new center.

Step 3: When you have a good sampling of brainstorming ideas, review them to be sure that you have covered ideas about air quality, water quality, and building materials.

- What do you need to see in the center to assure safety and health?

Now consider another environmental dimension: energy. For humans, energy comes from food.

- What can you do to ensure a safe and healthful food supply for this center?
- What do you need for preparation, serving, and storage?

Then think of the energy supply for the building.

- What will you use for lighting?
- What other electrical or gas needs do you have?
- Can you choose products that demand less from Earth's nonrenewable energy supply (e.g., oil) and rely on renewable energy (e.g., sun, wind power)?

Step 4: Think about trash. Discuss ways of reducing trash production in your program, through the three R's: reduce, reuse, recycle. Consider which supplies end up as trash.

- What supplies do you need for the program? Can you choose reusable supplies? Can you choose items that are not packaged in throw-away materials?
- How can you reduce, reuse, and recycle? What facilities will you need to make this easy to do? Can you compost food waste?

Think about the safe disposal of trash, when trash really is unavoidable.

- What types of containers do you need? Paper, contaminated waste, etc.?

Step 5: Consider the outdoor area of the center and what type of landscaping you will have.

- Is there a place for a garden?
- Will it need fertilizers and pesticides?
- How can you be sure that the landscaping will be wildlife-friendly and safe for children?

Step 6: Move your participants into smaller groups and give each group a large piece of paper and a variety of colored markers. Assign the groups an age group of children:

- Group 1: Infants
- Group 2: Toddlers
- Group 3: Young preschoolers
- Group 4: Pre-kindergartners

Ask each group to discuss the developmental features of their particular group of children. Then, using the ideas that have been generated from the whole group about environmentally friendly design, ask each small group to draw up a plan for a space for these children. Consider indoor and outdoor space.

Step 7: Post these drawings in your current center and share them with the administrators who will be selecting or designing your new site.

Points to Consider:

- Designing a center requires consideration of the developmental needs of children, their activities, and the natural environment. We want to think both of hazards from the environment and our chance to build a center that is environmentally friendly.
- Think both long term and short term. Some building materials are more expensive initially but pay off in lower costs later. This is especially true when considering energy efficiency.
- Consider what outside people will need to be involved in the renovation or construction of your center. Specifically, you might need specialists in lead abatement or the removal of asbestos. You might want to talk with someone who is knowledgeable about integrated pest management so that you can develop a pest control approach which is effective and non-toxic.

Next Steps: Ideas to Extend Practice

1. Using the information in *Activity 1: Children's Developmental Stages*, plan an educational activity for parents of children of different ages. Talk with the parents about their children's development and which hazards they want to look for in their homes. Help the parents to reduce possible hazards.

2. Contact your local water department or health department and arrange for a speaker to come and discuss water-quality issues with staff and parents. Or arrange a visit to the local water treatment plant. A water-quality specialist could explain the more detailed tests that are carried out to determine water quality and how water is treated in your area.

3. Invite a local building or landscape architect to your center to discuss plans for an environmentally safe and friendly building. Look for an architect who has a commitment to environmentally sound building practices.

4. Fairly simple test kits are available for checking water quality, presence of radon gas, and soil contamination. Contact a school science supply company, local health department or local office of the U.S. Environmental Protection Agency. Find out what simple test kits they use or recommend for home use. Develop a training activity for staff using test kits.

Handout G: Children's Developmental Stages & Environmental Risks

Age of Child:	Main behavioral characteristics of these children:
___ 0-3 mos. ___ 4-12 mos. ___ 1-2 yrs. ___ 3-5 yrs.	

What are the main risks from toxins in...	How do we protect children from toxins in...
Air:	
Water:	
Food:	
Household products/building materials:	

For use with Activity 1

Handout H-1: Sally's Story–Group 1

Part I:

- In January, three-year-old Sally joins your Head Start program. You notice that Sally has a chronic cough even when she does not have a cold. You also notice that Sally needs to rest frequently during vigorous playground activities. Each year, your Head Start program has had more children with asthma. The asthma seems to be especially severe in the winter, which is very cold in your mountainous, snowy town. In Sally's case, however, her breathing problems seem to be more severe than those of other children's. You inquire about Sally's health. Her parents are surprised that Sally has developed such severe asthma. Two years ago when the family moved into their first home after living in an apartment complex, Sally was a healthy child who loved to play with her friends and older siblings. Now, her condition keeps her from being active.

Part II:

- ***What Sally's mother tells you***

  Sally's asthma medications are monitored carefully by her parents. They have given away their cat, which seemed to make Sally worse, and are trying to watch what Sally eats to avoid any asthma-triggering foods. Their home is heated entirely by two wood-burning stoves, one in the kitchen and one in the living room. You ask Sally's parents what kind of wood they burn in the stove. They say that most of the wood comes from old train ties left from the tracks that used to run next to their community.

Part III:

- ***What the environmental health specialist at the local health department tells you***

  Wood stoves and fireplaces emit particulates, carbon monoxide, benzene, and formaldehyde. Children who are exposed to wood smoke have chronic coughing, wheezing, and severe asthma attacks more than other children. Only wood-burning stoves and fireplaces that have excellent ventilation are safe. Wood burned in stoves or fireplaces should contain no solvents or chemicals such as those found in train ties, because the chemicals are released inside the home when the coated wood is burned.

For use with Activity 2

Handout H-2: Juan's Story–Group 2

Part I:

- Juanito, a five-year-old, is enrolled in Head Start. Sometimes he misses school while he helps his parents work in the fields. You are concerned about his absences, but understand that the entire family contributes to the household income. One day, Juanito's mother Gloria arrives at school early to pick him up. She seems quite concerned. Upon questioning, you find out that Juan, Juanito's father, has been sent home from the fields, complaining of dizziness, weakness, stomach pains, difficulty breathing and muscle cramps. You know the family is reluctant to go to the medical clinic in town. You tell Gloria that you will stop by to see if you can help as soon as all of the children at the center have been picked up.

Part II:

- ***What Jorge tells you***

  When you arrive at Juanito's home, you find lots of activity. Juanito's home is located near the fields where the family works. It is evening and the breeze is moving from the East, the direction of the fields. There is a strange odor. On the front porch, you notice a pile of work clothes that reek of some chemical. Gloria welcomes you in and hurries back to the room where Juan is lying. Juanito climbs up on your lap. All of the commotion and his father being ill have him worried. Jorge, Juanito's 18-year-old brother, tells you it has been very busy in the fields and the workers have been doing more than their usual jobs.

Part III:

- ***What the emergency room physician tells you***

  Juan usually sorts and moves the crops from the field into the packing sheds. Today, because of the short staff, he was asked to apply the pesticide malathion, which is sprayed on a variety of crops. Juan is not properly trained in handling malathion nor was he properly protected. When someone comes in contact with this pesticide, the effect is dramatic and immediate. It has a potent effect on the nervous system, as do other organophosphates. Atropine is an antidote for organophosphate poisoning, and if administered quickly can save a life. All family members should probably be watched for low-level effects from exposure to this pesticide.

For use with Activity 2

Handout H-3: Tehan's Story–Group 3

Part I:

- Tehan is a healthy four-year-old boy in the Head Start program. He has a reputation as an agreeable child who participates willingly in all activities. One day you notice a sudden change in his disposition. He is irritable and withdrawn. Another day he begins to tremble. You contact his parents to alert them. They pick him up right away. The next day he's absent. His parents call to tell you that Tehan became progressively weaker during the night, complaining of pain in his legs. After school you stop by Tehan's home to check on how he is.

Part II:

- ***What Tehan's aunt tells you***

  Tehan's aunt is at the home. She says Tehan and the family have gone to stay with their cousins who live a few blocks away. The aunt is tidying up and she tells you how upsetting the past few days have been: The family has been really disturbed by the landlord's painting. When you entered the home you noticed a strong smell of new paint. Tehan's aunt tells you how difficult it has been. Because their apartment is old, they were concerned about lead poisoning from the peeling paint. Tehan's blood lead level had been a bit elevated when he was screened through the Head Start program. With the help of an active community group and a supportive health department, the landlord had been pressured to repaint the apartment, covering the old paint. He had resisted, but finally complied disagreeably, refusing to buy new paint but using some cans of paint that he had stored in the basement from a job several years ago.

Part III:

- ***What the pediatrician tells you***

  Acrodynia, caused by mercury exposure, is known as "pink disease" because a child's hands and feet become bluish pink. The syndrome is also characterized by extreme irritability, insomnia, and constant itching with excruciating pain in the hands, feet, and joints. Because it is highly toxic to bacteria and fungi, mercury was added to latex paints as a preservative. After the paint has been applied, the mercury vaporizes into the indoor air. In 1990, the United States banned use of mercury compounds as paint preservatives in interior latex paint. However, existing stocks of latex paint containing mercury can be distributed and sold; the ban applies only to paint produced since 1990.

  To prevent exposure to mercury, when purchasing paint, check that it contains no mercury. Proper ventilation both during and after painting is crucial. If you have no control over the painters (as in Tehan's family's landlord situation), stay out of the area for several weeks.

  Children also can be exposed to mercury from a broken thermometer. Mercury is very bright and enticing to children who might pick up a broken thermometer that is lying around.

For use with Activity 2

Handout H-4: Alicia's Story–Group 4

Part I:

- A young couple in their mid-30s have just enrolled their 18-month-old daughter in your home-based Head Start program. Kevin and Alicia Williams moved to your rural southern community two years ago and bought an old farm house. They are working very hard to renovate the old homestead and make a success of their farm.

  One day when you visit, Alicia enthusiastically gives you a tour of the old house. As she shows off the rooms, she confides a bit of trouble: She and Kevin have not felt really well since their first winter in the home. They both have had stuffy noses, sinus pain, and severe headaches that lasted two to three hours, sometimes accompanied by light-headedness. They wonder about pollen or dust in the air, but their symptoms are especially noticeable after they work in their basement workshop.

  "I guess we're crazy, with all we have to do," Alicia said, "but we've tried to have a second child and it's not working." She calls herself a "health nut," saying she and Kevin have never smoked, don't drink alcohol and used to get a lot of exercise when they lived in the city. Now, she says, she is always tired.

Part II:

- ***What Kelly tells you***

  A few houses away lives Kelly Stuart, a lifelong resident of the area, and her husband Leo. The Stuarts' children have participated in Head Start for many years. When you visit Kelly, she is happily pregnant. She says she feels sorry for Alicia, her friend. You learn that the previous occupants of the Williams' house, also a young couple, had left the farm convinced that the wife's two miscarriages were due to something wrong with the house.

Part III:

- ***What the local building inspector tells you***

  He checked the housing records and verified that chlordane was used to fumigate the Williams' house for termites six years ago. Chlordane had been used widely for more than 35 years as a spray to protect structures against termites, but was banned a few years ago. Chlordane is an organochlorine insecticide, in the same family as DDT and heptachlor. These chemicals have low acute toxicity, so that people who work with them do not show any effects. However, the chemicals persist in the environment indefinitely. Their effect on reproduction in the animal world was detailed in *Silent Spring*.

  The major source of chlordane exposure today is indoor air, a result of continuing volatilization from prior use in and around homes. Homes improperly treated have higher levels of chlordane. Improper treatment includes pouring the chemical at the foundation line, carelessly injecting liquid chlordane directly into living spaces or air ducts, or excessive spraying in crawl spaces. If oversprayed, emission of chlordane from joists and flooring can persist for 15 years after treatment.

For use with Activity 2

Handout I-1: Home Visit Checklist

Family Name: _____ **Date:** _____

Address: _____

Observations	Hazard to Consider	Notes on What To Do
Type of Housing? • age, condition • peeling paint	___ lead-based paint ___ asbestos	
Attached Garage?	___ gas fumes ___ carbon monoxide ___ ventilation	
Live in the Basement Apartment?	___ radon	
Peeling Insulation?	___ asbestos	
Source of Drinking Water? • from a private well • from older pipes • from a well close to possible pollution source (e.g., farm or feedlot)	___ microorganisms ___ lead ___ pesticides	

For use with Activity 5

Handout I-1: Home Visit Checklist *(continued)*

Observations	Hazard to Consider	Notes on What To Do
Heating Source? • wood burning • kerosene heaters	___ possible air pollutants ___ be sure of adequate ventilation	
Smokers in the House?	___ secondhand tobacco smoke	
Use of Pesticides or Toxic Cleaning Supplies? • for indoor pests • for scouring, polishing, etc.	___ poisoning possibilities	
Yard and/or Garden? • growing own fruits and vegetables	___ pesticide used ___ pesticide residue ___ contaminated soil	
Pet(s)?	___ flea control ___ pesticides	
Work of Household Members? • toxins in the workplace	___ exposures could be occurring at work, and then brought home	

For use with Activity 5

Handout I-2: Did You Know...?

If...	*Did You Know...?*	*To Reduce Hazards, You Can...*
• a house or apartment building was built before 1979...	• paint with lead was probably used in it. This paint is hazardous to children if it is peeling or flaking.	• wet-mop paint dust off of window sills and vacuum frequently to pick up any dust on the floor. Cover any spots of peeling paint with new lead-free paint.
• a building has asbestos as an insulation material in pipes, walls, or ceilings...	• asbestos fibers, if disturbed and allowed to circulate in the air, can cause lung cancer.	• call the health department to find someone in your area who is certified to do asbestos removal.
• a garage is attached to a house, and vehicles are parked in the garage...	• gas fumes and carbon monoxide can seep into the living spaces.	• be sure that the garage is well ventilated to the outside, so that fumes do not seep into the living spaces.
• a family lives in a basement apartment...	• radon gas tends to settle near the ground and the levels of radon will be higher in basement areas.	• check with the health department to see if radon gas is a problem in your area. Get a testing kit to measure the level of radon in the basement.
• a home receives drinking water from a private well...	• the water is not treated by any municipal agency; it should, therefore, be tested regularly to be sure that there are no harmful microorganisms present.	• have the water tested by the local health department or testing agency.
• a home has water pipes installed before 1950 and if these pipes contain lead solder at their joints...	• the water might be contaminated with lead from the pipes.	• for a minute each morning run the water from the faucet that provides your drinking water. Use the first-run water for plants. Keep a pitcher of water for drinking or cooking, drawn after the first-run water, in the refrigerator for use throughout the day.

For use with Activity 5

Handout I-2: Did You Know...? *(continued)*

If...	*Did You Know...?*	*To Reduce Hazards, You Can...*
• a home is located near a farm or feedlot and receives its water from a well...	• the water might be contaminated by runoff from pesticides and fertilizers used on the farm or feedlot.	• have the water tested by the local health department or testing agency. If there is contamination, it may not be safe to use that well.
• a home's source of heat is a wood-burning stove or kerosene heater...	• dangerous gases are given off from these heating sources and the home should be well-ventilated.	• be sure that the heater or stove is equipped with the necessary safety features. Be sure that there is adequate ventilation when using these heaters.
• there are smokers living in the house...	• other residents are exposed to secondhand tobacco smoke.	• encourage smokers to quit smoking. If they cannot, ask them to smoke outdoors only.
• members of the household work with toxic substances at their workplaces...	• other family members could be exposed to the same toxic substances through contact with the worker's clothes.	• be sure to change clothes and wash well before leaving the workplace.
• pesticides are used to control bugs and other pests in the house, in the yard or on pets...	• members of the household might be exposed to these poisonous substances.	• try to find ways to control pests without the use of chemical pesticides.

For use with Activity 5

Building Communities Which Consider the Seventh Generation

Outcomes

After completing this module, participants will:

- *recognize and respond to long-term and community-wide environmental challenges;*
- *expand their current role in collaboration with community agencies to address environmental health issues;*
- *improve their skills in working with families to:*
  - *support family efforts to enhance and protect their community's environment*
  - *identify environmentally related situations and behaviors that could cause harm; and*
- *be able to review and assess local Head Start program practices in light of the goal of environmental sustainability, and make changes where necessary.*

Key Concepts

A healthy environment is a key to a strong community. Building better communities is a part of Head Start's mission.

Parents juggle many issues as they work to provide healthy, loving homes for their children. Understanding how environmental pollution can affect low-income families is important in finding ways to protect the families and lessen pollution's effects.

Head Start programs can contribute to a healthier environment. Environmentally sustainable practices assure a healthy future for our children and generations to come.

Module 3

Background Information

A. The Environment: Working Toward the Big Picture

The Iroquois have a saying, "In every deliberation, we must consider the effect on the next seven generations." The idea of seven generations of impact is another way of looking at the concept of sustainability.

Head Start staff are already committed to a multi-generational program. They understand how behaviors and situations of parents and grandparents contribute to the behaviors and situations of children—even after the children are grown. In promoting and encouraging supportive discipline, for example, we lay the groundwork for young adults who can make intelligent choices and manage their emotions. Healthy families sustain and transmit an ongoing thread of love and growth, much like the roots that a healthy plant sends out through the earth to sprout new generations of plants.

We can use this concept of sustainability to evaluate different actions that we or others take. To know whether any environmental practice can pass the test of sustainability, simply ask this question: Is this practice something that can be done by many people throughout the world, over and over and on through time, without toxic effects? Many researchers and activists in the environmental community have concluded that the overall practices of modern industrial society—using lots of machines and natural resources, and generating lots of pollutants and waste—cannot be continued if we wish to sustain the quality of human life and the ecological health and biodiversity of the planet for future generations.

One example of the long-reaching and far-ranging effect of a population's behaviors is the use of oil and coal which lead to global warming. Most scientists believe that the by-products of our energy use (carbon dioxide and the other greenhouse gases) will heat the atmosphere, and cause oceans to rise, storms, droughts, and famine.

Because U.S. society is more urban and industrial than much of the world, each American is responsible for putting more carbon dioxide into the atmosphere than others who live on this planet. The average American is responsible for 2.3 tons of carbon each year, while the average Western European is responsible for 0.9 of a ton and the average person in India only 0.1 ton. This gives Americans the chance to do good through lifestyle changes!

Society-wide—or worldwide—challenges require actions by individuals and groups. Global warming, for example, can be reduced by using less carbon-producing energy. Each person can be part of the solution by conserving electricity, conserving energy for home heating and cooling, and using cars much more efficiently. Because trees use carbon dioxide in their life cycle, the solution includes protecting existing trees and planting more of them.

Everyone is affected by environmental degradation, and everyone is able to do something to enhance and protect the planet.

B. Special Challenges

Achievement of Head Start's goals for families and children requires supportive, healthy communities. In looking at our communities' environment—whether defined by beautiful natural features, availability of wholesome food, or freedom from toxic pollution—it is important to be alert to the special risks that some communities face. It is well-documented that children in low-income families face greater health risks and suffer from more illnesses than children in more affluent families. It seems also to be the case that children in low-income families are more disadvantaged from an environmental perspective.

The history of lead poisoning is a good example. Lead's dangers have been known for hundreds of years, but only during this century has attention been paid to lead effects, which are more subtle than acute illness from lead poisoning, which usually leads to hospitalization. In the 1970s and '80s, mass screening of millions of children evaluated the levels of lead in their blood. The problem of lead absorption was nationwide. However, African American children, from low-income families who lived in the central city were affected disproportionately.

After several years of work, average blood lead levels are down. The 1990-94 National Health and Nutrition Examination Survey (NHANES) showed an average lead level of 2.7 mcg/dl among children aged one to five in the United States. But there has been no decrease in blood lead levels in ethnic minority populations. Of the children with lead poisoning, 55% are from low-income African American families, while 26% are from low-income white families. Children in low-income, ethnic minority families are more likely to be exposed to higher levels of lead because low-income housing tends to be poorly maintained and is more likely to have old, peeling paint. To make matters worse, children from low-income families can absorb lead more readily because their diets can be deficient in protein, calcium, iron, and zinc.

Disproportionate harm is also found in exposure to polluted air. The American Lung Association estimates that a person's chance of living in an area where ozone levels exceed the Environmental Protection Agency standard for clean air differs based on the person's ethnicity: 69% of Hispanics, 67% of Asian American, 61% of African Americans, and 51% of European Americans live in "dirty air" areas.

In Los Angeles, air quality is notorious, but it is not equally bad throughout the region. Over 14 million people reside in—and share the air in—an "air basin" created by inversion layers and mountains, wind currents and variable temperatures. Ozone and particulates from motor vehicles are concentrated inland, not in the hillsides swept by ocean breezes in the western part of the city. A family's ability to choose where to live, and to take trips out of Los Angeles, can reduce their exposure to bad air.

The link between environmental protection and the more traditional family support/community development work that Head Start does is clear. Understanding the impact that the environment has on our health, we can see the mutual benefit that comes from collaborating with groups whose work is to protect and enhance the natural environment.

C. Collaborating with the Community

Head Start staff can help communities improve their environment by helping community members gain access to policy makers and those who enforce environmental regulations. Staff can also help build sustainable communities by forging linkages among health workers, environmentalists, and those interested in family support.

There have been some wonderful environmental success stories from the alliance of neighbors and environmental groups. One example is the Blueridge Civic Club in Houston, Texas. When neighbors learned of the plans to build a garbage processing plant near their homes—which would cause increases in truck traffic, odor, and household hazardous waste products—they collaborated with other groups. They were able to halt the permit process for this plant, although other garbage facilities had been located near their neighborhood in the past.

There are endless ways to work collaboratively to protect and enhance the environment. Head Start programs must develop linkages with community-based environmental organizations that know about local conditions and efforts.

The federal agency with primary responsibility for environmental health is the Environmental Protection Agency (EPA), created in December 1970, several months after the first Earth Day.

EPA is responsible for enforcing national pollution prevention and cleanup laws. Familiarity with these and other local laws that protect the environment can help staff to know how to address issues of environmental health or illness.

D. Head Start as Model of Sustainability

While a Head Start program, through its staff, can have some effect throughout the community in encouraging healthy environmental developments, it can have even more impact right at home. The staff of each program make choices daily that are sustainable or nonsustainable: from choosing the type of silverware to use during lunch to selecting light bulbs for the center.

Working toward environmental health means individual choices and community commitment—with a healthier future for all.

Questions for Discussion/ Reflection

- How do you fit the overall needs of the ecosystem—and the seventh generation—into your day-to-day needs and activities? Is it hard to do? Easy?
- How aware of environmental issues is the staff of your Head Start program? Your program's families? Your local community?
- Can you give examples of special risks to certain groups from unhealthy environmental situations?
- Which environmental groups in your community would you most like to work with? Do you see a strong common purpose though your day-to-day work is different?

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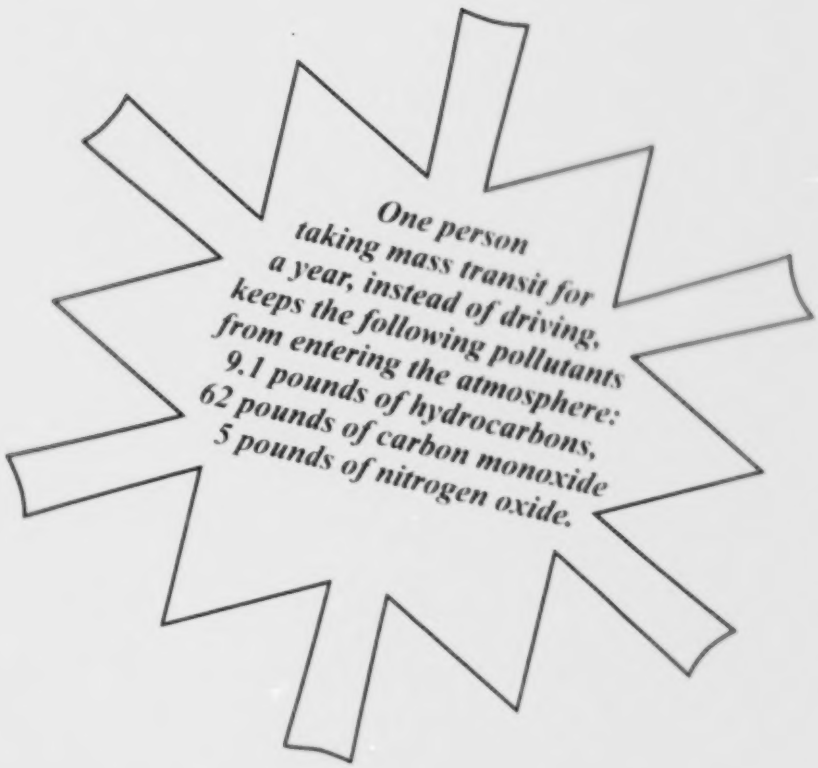

One person
taking mass transit for
a year, instead of driving,
keeps the following pollutants
from entering the atmosphere:
9.1 pounds of hydrocarbons,
62 pounds of carbon monoxide
5 pounds of nitrogen oxide.

Activity 1: Hot Spots—Community Map

Purpose: Participants will create a visual record of toxic hot spots in their community, relate those hot spots to the residences of families and to the location of the Head Start center, and plan ways to address the problems.

For this activity you will need:

- A map of your area, big enough to be seen when posted on a wall
- Many small, sticky dots in a variety of colors
- Green and blue stars
- Address lists for families in your program
- Flip chart and markers

Step 1: Welcome participants and tell them that they will be developing a picture of the community and identifying locations where health-damaging activities take place.

Step 2: On the flip chart, write the following:

- yellow = air
- red = toxic dumps or buildings
- purple = water
- orange = other

Step 3: Give each participant two or three dots of each color. Ask them to think about where in their community the environment is being damaged. Ask them to go to the map and put dots at those locations. Refer them to the coding for the dots on the flip chart. Encourage them to put their dots on top of each other if two or more people identify the same hot spot; this will indicate the depth of concern of the group about that particular toxic spot.

Step 4: When everyone has distributed their dots, ask the group to consider the map.

- Do you see a preponderance of one kind of toxic spot in this community?

- Is the biggest issue air, water, toxic sites, or something else?
- What about the distribution of spots on the map? Are they concentrated in one area?

Step 5: Now consider the effects of those hot spots on the health of the Head Start families.

- Where do the families live? Mostly in one area? If so, are they grouped near any of the major problem spots?
- Have you noticed any ill health effects in families who live near any of these spots? Do you notice any connections?
- What about the location of the Head Start center? Are any toxic areas nearby?

Step 6: Choose the two or three areas of major concern and divide participants into smaller groups, assigning one concern to each group. Give each group a large piece of flip chart paper and a marker to record their strategies for addressing the problem.

Step 7: Ask each group to discuss its environmental problem. Questions that can guide the discussion are:

- What more information do we need about this issue?
- Who should we talk with to get more information?
- What do we want to do about this problem?
- Who else should be involved in our action? Which community agencies can collaborate with us on this?

Step 8: Ask each group to report back on its strategies. Ask other groups to suggest additional ideas.

- What barriers do they expect to encounter?
- How much do they think they can do?
- Ask the groups to make a commitment to follow through on their plans.

Step 9: Now check with the participants. Do they feel overwhelmed? Is this depressing?

All communities have both positive **and** negative features. Commend the participants for their willingness to tackle the challenges.

Give everyone five blue or green stars. As they leave the room, ask them to return to the maps and put their stars wherever in their community they find an environment that is clean, beautiful, uplifting, or even just improved from the past. Suggest that they think of or visit these spots whenever they feel overwhelmed by the challenge of changing a bad situation.

Trainer's Note:

*See **Next Steps: Ideas to Extend Practice** for an idea on celebrating the community's "cool spots."*

Points to Consider:

- There are patterns of pollution that we can see when we look at a community. Knowledge of the pattern can help to target the efforts to correct the problem. It can also help to mobilize residents in a certain area, and draw the attention of elected officials in that area.

- In looking at major toxic problems, we have to realize that we can only do so much, and that often the situation is beyond our total control, regardless of our level of effort. It is useful to think of two general options:

  – Is this a problem that we have a chance of solving if we work with other groups in the community?

  or

  – Is this a problem that cannot be solved but can be alleviated if we develop a strategy to minimize harm to our families?

  Either route is the "right" route, depending on the situation.

Activity 2: Community Helpers

Purpose: Staff members will identify where to find assistance in the community when an environmental problem presents itself.

For this activity you will need:

- Handout J: Environmental Laws & Regulations
- Writing materials for each participant

Trainer Preparation Note:

Conduct this activity with staff interested in working on an environmental problem in the community. If possible, involve a staff member, a parent/family member, and a member of the Health Services Advisory Committee or Policy Council as a team.

Step 1: Meet with the participant(s) to decide which environmental problem they will investigate. Clarify the problem with the participant(s).

In your first meeting, you may wish to incorporate information on the local ecosystem and why we care about it from *Module 1: Caring for Our Children, Caring for Our Earth.*

Step 2: Ask staff members to research the problem they chose. They should gather information about the dimensions of the problem and how long it has existed. There is good background information in *Module 2: Environmental Risks and Hazards.* Confer with them on where to obtain information about legal implications of the problem. Check into relevant local, state and federal laws. Handout J: Environmental Laws & Regulations lists some important federal laws. States or counties are likely to have regulations covering aspects of the same problems.

Step 3: Give the participant(s) enough time to research the issue and to make contact with possible helpers. These helpers could be:

- parents' groups

- environmental action groups
- local health department—Environmental Health section
- state health department—Environmental Health section
- regional office of the U.S. Environmental Protection Agency

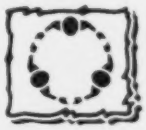
Encourage the participant(s) to make good use of the already established linkages that their Head Start program has in the community. Have any of them expressed an interest in this problem?

Step 4: Give the participant(s) a date to report back on the steps that might be taken to address the environmental problem. Identify the next steps and recruit other members of the staff or community to become involved.

Points to Consider:

- How did you decide to investigate this issue? Was there a complaint from parents, an obvious increase in illness in an area, or a growing concern about a long-term problem that might not yet be obvious?
- Environmental problems can seem overwhelming. Usually, however, there is a small piece that can be addressed. Something can be done that makes the situation better, though it might not completely solve the problem.
- Who was the most responsive: elected officials, staff of government agencies, or people in community groups? Can you identify groups you had not known of before who can now be community partners?

Activity 3: It Happens at Home—Pollution or Prevention



Purpose: Staff will improve their ability to work with families around environmental health issues.

For this workshop activity you will need:

- Handout K: Home Situations
- Writing materials for participants

Step 1: Begin the activity by acknowledging the important work that all staff do in support of families. Certainly each staff member can recall some families that faced many challenges. It is always difficult to choose where to focus attention when many things need attention.

This activity explores some situations of environmental need, sometimes articulated by the family, sometimes not. Group members will look at several situations, decide how they might address them as pairs of staff people, then as a large group consider what place environmental concerns hold in their own Head Start program's "hierarchy of needs."

Step 2: Talk with participants about their experiences in working with families around environmental health issues.

- Have you ever noticed a family doing something that contributes to pollution in the community? Has a family ever brought up a concern about a neighbor's practices? What kinds of things?
- Have you ever been approached by a family member and asked for help working on a community-wide environmental problem? What kinds of things?

Assess with your group the level of importance that this particular Head Start program attaches to local environmental concerns: High, Medium, or Low?

Step 3: Ask each participant to choose a partner. There are several scenarios in Handout K: Home Situations. Tell them that they will work as a staff team involved with a Head Start family. They will consider the situation presented, and discuss how they would approach it.

Once they have their plan, the large group will reconvene to discuss the situations. Out of the large group discussion a program-wide philosophy on environmental concerns could emerge.

Step 4: Allow the pairs approximately 10 minutes. During their discussion, ask them to consider the following:

- What is the parents' perspective on this situation? Is there great concern? Are they unconcerned?
- What is your perspective as a staff person? Is there great concern? Are you unconcerned?
- What aspects of this situation—if any—do you find particularly challenging or problematic?
- Who else would you involve in this situation? Others in your own Head Start program? Other community members or agencies?
- What steps do you plan to take?

Step 5: Bring the group together. Ask the members to share their situation with the other participants, and ask them to explain what they plan to do. Ask all the members to consider how the planned actions fit into the priorities of their own Head Start center.

- Are there some situations that would normally call for intervention?
- Are there some situations the staff would rather leave alone?
- What support might staff need in taking on a situation or problem that is unusual or controversial?

Points to Consider:

- Does it feel like a stretch to talk with parents about environmentally damaging practices?
- Most people find it easiest to address a pollution problem when there is a direct effect on the health or well-being of the people involved. Attention to ecological health is important but may not be a primary concern.
- How high a priority does this Head Start program place on involvement in community environmental issues?
- What do you do when you feel overwhelmed, the pollution is too pervasive, or there are too many issues to consider? How do you find a manageable piece of the problem to address? Who can help?
- How good are the linkages between this program and other community organizations that focus on environmental concerns? How could the links be strengthened?

Living in
densely populated cities
is good for the earth!
Small yards use fewer pesticides
and fertilizers.
A three-story apartment house
can provide 50 dwelling units per acre;
94% less land use than a suburban development
of three dwelling units per acre.
Smaller dwelling units that share walls,
ceilings, and foundations
save on use of building materials
and use of energy for
heating and cooling.

Activity 4: Environmental Advertisements

Purpose: Participant(s) will work with the policy council or parent committee, helping them to develop some ideas for educating parents on environmental themes.

For this coaching activity you will need:

- Handout L-1: Be a Common Sense Citizen
- Handout L-2: Be a Common Sense Parent

Step 1: Work with the participant(s) whose role is to develop parent education materials. Ask about the themes that the parent education committee is working with this year.

- Do any relate to the environment?

Recognizing that parents are very busy and Head Start families have many things to think about, consider:

- What is a simple way to present an environmental message?
- How could we give family members some information about protecting and enhancing the environment, focusing on issues that they have identified as important?

We can provide printed materials with quick, simple information and motivational messages to encourage environmental protection.

Step 2: Review Handouts L-1: Be a Common Sense Citizen and L-2: Be a Common Sense Parent. These were produced by the Environmental Protection Agency (EPA) for the 25th anniversary of Earth Day. If you are close to a regional EPA office, check there for other educational materials. Check also with your local health department's environmental health section, the Cooperative Extension Service, the Forest Service, or an environmental studies department at a local college or university. See what printed materials they have that they will share.

Step 3: Meet with your parent council and discuss an environmental issue that is important and immediately relevant to them. What do they think might interest other families? Discuss how you could develop a simple handout or flyer with a message about the important topic on it. Review with the group some of the materials you have collected.

Step 4: Revise any existing materials in a way that is most appealing and understandable to your group of families. Write your own if you wish.

Step 5: Duplicate your materials and make them available as handouts, or include them in the program newsletter. Talk with parents and family members over the next few weeks to see if the materials were interesting, motivational and educational.

- Were you able to make any changes after reading them?

Consider an ongoing project that would offer a new tip sheet periodically, perhaps monthly.

Points to Consider:

- Companies advertise to sell their products. They are in the business of motivating people to take action and to buy. We can think in the same way in designing advertisements for environmental action.
- Simple written materials can provide information that people can consider at their convenience. In designing these materials, take reading level, language, and cultural preferences into account.
- Think about the commercials that you saw recently on television.
  - Why were they effective? What techniques did they use?
  - How can you apply advertising know-how to educational materials for parents?

Activity 5: To Dispose or Reuse?

Purpose: The participant(s) will analyze the costs and benefits of using some products common in Head Start programs. They will develop a balance sheet that reflects a variety of issues.

For this activity you will need:

- Handout M: The Environmental Balance Sheet
- Writing materials for participants

Step 1: Discuss with participant(s) the issue of solid waste production—**garbage.** Industry produces many disposable products, which we use once and throw away. Disposing of the garbage is left to future generations.

- Do we consider all of the costs and benefits when we choose which products to buy?
- What is the ultimate result of this type of consumerism?

To move toward more sustainable practices in our Head Start programs, what should we be considering?

Step 2: Review the guidelines on reducing solid waste:

- First choice, **reduce**: Try not to acquire the item in the first place.
- Second choice, **reuse**: Use something once, then use it again, and again, and again (a good example is the efficient use most schools make of paper printed on one side, then reused on the other).
- Third choice, **recycle**: Have the item broken down into its basic parts and made again into a new item.

Recycling is the third choice in reducing waste because energy is used and pollution is generated in the process of remaking the new product. Some things are easily recycled—such as glass and aluminum—and can be made into new items again and

again. Other things—like most plastic—do not truly recycle, because they can only be "recycled" once or twice. Then they become garbage.

Step 3: Ask the participant(s) to think of a variety of disposable items used in the Head Start program. Some examples:

- paper plates and paper or plastic (styrofoam) cups
- disposable diapers
- disposable baby bottle liners or baby bottles
- plastic silverware
- products packaged in styrofoam pellets or plastic wrap
- juice boxes or other disposable food containers
- disposable paper towels
- tissues

Step 4: Select one product for each participant to analyze. Give them a copy of Handout M: The Environmental Balance Sheet. Ask them to take some time to research the costs and benefits of this type of product. Community recycling groups may be a good source of information. How products are manufactured and transported could be learned by calling manufacturers or suppliers.

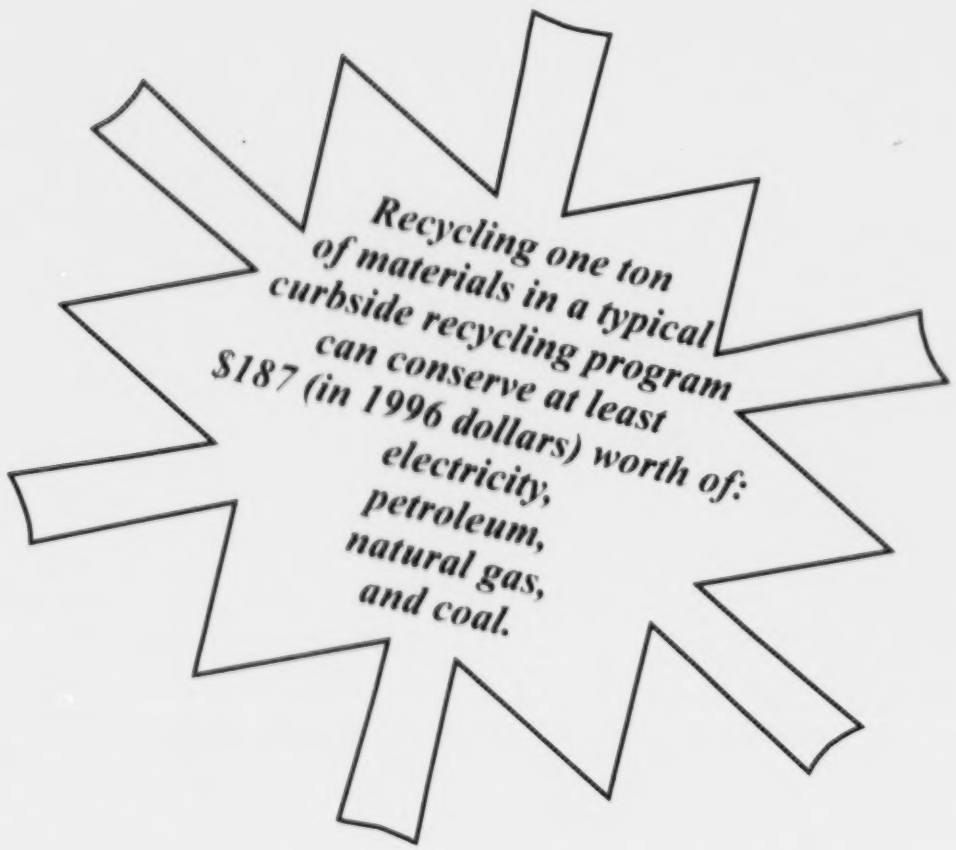
Step 5: When the participant(s) have gathered enough information on the product(s), meet again. If it seems appropriate, discuss the issue in a staff meeting. Decide if you would like to switch to reusable products and plan how you would make this change.

Points to Consider:

- Can we put a value on production or reduction of garbage? How do values affect our decision on this?
- Consider the important sub-issue of packaging. Products, even those that are reusable, often come in packages that are immediately thrown away.
  - How much garbage does that make?

- How can each of us reduce the amount of packaging we throw away?
- What about a community solution? Can we set up local regulations that limit how much packaging is permitted?
- Could we establish a buying club with other users of certain products and collectively demand that manufacturers and sellers reduce, reuse, or eliminate packaging?

- Many people are very good at finding new uses for things that otherwise would be thrown away. Congratulate staff if they reuse something rather than throw it away, especially if it can be reused yet again.
- Food and yard waste make up 25% of many communities' waste streams. Composting is nature's way of reusing organic materials, rather than throwing them away.



Module 3

Activity 6: How Do We Get There?

Purpose: Participants will analyze the effects on air quality of national and local transportation practices. They will develop a program-wide activity that motivates staff members to choose clean-air alternatives for transportation whenever possible.

For this workshop activity you will need:

- Handouts N-1 through N-3: Getting There in a Better Way
- Large charts
- Key to Activity 6: Facts on Transportation–*For Trainer Only*

> ***Trainer Preparation Note:***
>
> *This workshop could work very well as an extension of regular staff meetings, since it takes place over time. You may want to consider the background information on behavioral change in the* **Health** *series guide:* ***Enhancing Health in the Head Start Workplace.***

Step 1: Tell the participants that this workshop will take place in a few parts. One section is for assessing what we are doing now; in another section we work on making positive changes in our behavior. The behavior to change is over-reliance on auto travel. We hope to reduce auto travel and contribute to cleaner air. By choosing other means of transportation, we also help our own physical fitness. Lead a discussion on choices in transportation and practices and concerns people have, using the information in the *Key to Activity 6: Facts on Transportation–For Trainer Only*.

Step 2: Decide with the group the time frame for the workshop. Two weeks is a reasonable time period to do your observations of trip behavior, meet to set goals, and arrange for any assistance needed to bring about change. Then work on your changes for another two weeks. The whole activity might continue over four to six weeks. At the end, celebrate your accomplishments.

Step 3: Discuss how you will record trips during the observation period. Establish your definition of a "trip"—going somewhere, even a short distance for work, errands, family business, etc. Count personal trips and trips taken in the course of the Head Start day. Consider how your group's travel patterns are alike or different from the national average. Emphasize that this is a group effort to make a change—a reduction—not a requirement for people to completely give up their cars.

The Department of Transportation has set some goals for increasing the number of trips that Americans take by bicycling and walking from current 8% of trips (1.6 per week) to double that to 15% (3 per week).

Do any staff members already walk or bicycle for more than 15% of their trips? Do any staff members regularly carpool or take the bus? Congratulate them. They will be very helpful as the team works toward changing travel patterns.

Step 4: Draw your chart to record observation time. Ask each participant to put her name in one section. If you wish, invite parents or other community partners to join. An example of the poster follows:

Car Travel Chart

Name	Mon	Tue	Wed	Thr	Fri	Sat	Sun	Mon	Tue	Wed	Thr	Fri	Sat	Sun	GRAND TOTAL
Mary	✓✓ ✓✓														
Group Total:															

Step 5: Over the next two weeks, ask each participant to put a check in the box each times she takes a trip by car.

Example: Mary drives to work at Head Start, takes a city bus with the children to and from a field trip, drives home, drives to the grocery store and back, then drives her child to a friend's house and back. She has taken eight trips, six of them in her car. So she makes six checks.

At the end of the two weeks, total the number of car trips taken by your entire group. The goal is to reduce this number by replacing them with trips that use walking, bicycling, public transit, or carpooling.

Step 6: Decide what the participants need to help them change their trip styles.

- Do we need bus schedules from the local bus company? Call for copies.
- Will assistance from a bicycling advocacy group or bicycle shop help? Schedule a meeting.
- How about a buddy system for people who want to walk or carpool together? Establish a sign-up sheet.

Get these supports in place first.

Step 7: Now begin your "time of change." It's fun to set up a kickoff meeting. Encourage all participants to do something, even a small change.

You might invite a guest from a local agency to give support such as: Sierra Club, Nature Conservancy, Environmental Protection Agency (EPA), Department of Transportation, or a local bicycle/pedestrian advocacy group, to provide support. You may be able to get prizes for the effort from local merchants.

Step 8: Give each participant an envelope with the symbols for bike, walk, carpool/transit trips. Make another large chart with big spaces for each day, so that participants can put their stickers in each space. No names go on this chart. It's a group effort. (It's a "snowstorm.")

Traveling a Better Way Chart

GROUP EFFORT	Mon	Tue	Wed	Thr	Fri	Sat	Sun	Mon	Tue	Wed	Thr	Fri	Sat	Sun	GRAND TOTAL
Car Total:															
Bike Total:															
Walk Total:															
Carpool/ Transit Total															

We reduced our car trips by _____!

Give these instructions: Over the next two weeks, put a sticker or a check on **each time** you make a trip on that day. For example, if Mary walked to the Head Start Center, took the city bus with the children to go on a field trip and back, caught a ride home with a friend, drove to the grocery store, drove home, then walked her child to a friend's house and walked her home, that would be a total of eight trips. Her stickers would be:

- walk: 3 stickers
- bus/carpool: 3 stickers
- car: 2 checks

Hooray! She has reduced her six car trips to two!

Step 9: At the end of two weeks, count up all of the markers. Celebrate the total number of environmentally friendly trips taken in place of car trips by your whole organization.

- How much were you able to reduce?

- Did you come close to (or did you exceed) the national goal?

- What helped the most in your efforts? What were the biggest barriers? How can you continue to reduce car trips?

Consider awarding prizes to each person who took the most trips by 1) walking, 2) bicycling, or 3) carpooling/public transit, or was most creative in their reduction of auto use.

Points to Consider:

- American society has become dependent on the car. There are good reasons to reduce unnecessary car trips. This is an area where small changes by large numbers of people can have a big effect.

- Talk with people about their car use.

  – How much use do you believe is essential and how much use is for convenience?

  – What are you willing to do to improve air quality?

- Auto usage is a good example of the disproportionate energy use and environmental harm caused by certain groups. Americans make up 4.6% of the world's population, yet own over 30% of the world's cars.

  – If everyone in the world were to embrace the American lifestyle with its extensive use of cars, what would this mean in terms of ecological sustainability?

  – How can we reconcile conflicting urges? We would like others in the world to enjoy the standard of living of the American middle-class. However, if they did, great ecological harm would result.

- Land use patterns predict auto usage. Compact communities do not require autos, but sprawling suburbs do. What can we do to encourage necessary services/stores/recreation facilities to be located close to each other? In farming or ranching communities, can we group activities or services in **time**, so that one car trip accomplishes many tasks?

Key to Activity 6: Fact Sheet Transportation—*For Trainer Only*

The American Way of Travel

- Overall trips:
  - 7.2% of all trips are currently made by walking
  - 0.7% of trips are made by bicycling
  - over 90% are made in a motor vehicle
- Trips to work:
  - 73% drive alone
  - 13% carpool
  - 5% transit (bus/metro)
  - 9% other
- The average person makes 20 trips per week:
  - 25% of all trips are one mile or less
  - 40% are two miles or less
  - 50% are three miles or less
  - 66% are five miles or less
  - 21% of trips are to and from work

What About Autos?

- In 1950, there were about 53 million cars on the world's roads. In 1990, there were more than 430 million cars. Americans own about half of that total.
- Exhaust fumes from cars, trucks, and buses is now the major source of worldwide air pollution.
- Auto exhaust contains thousands of chemical compounds, including: nitrogen oxides, carbon monoxide, sulfur dioxide, sulfuric acid, particulates, formaldehyde, acetaldehyde, and benzene.
- Efforts to clean the air through regulations such as improved miles-per-gallon for cars or controls on pollutants emitted are rendered futile in the face of increasing vehicle-miles-traveled (VMT).
- The average household in the United States spends 18.5% of its total expenditures on transportation—second only to housing. Personal auto expenditures in 1993 totaled $408 trillion.

What About Other Ways to Get Around? Bike, Walk, Carpool, Take Public Transit

- *Exercise*
  - Even a little bicycling and walking can reduce risk of heart disease and osteoporosis, maintain flexibility and mobility.
  - Using a bus or streetcar means walking a bit to get from home to the stop, and from the stop to the final destination.

Key to Activity 6: Fact Sheet Transportation—*For Trainer Only (continued)*

- *Energy Usage*
  - In 1991, it was estimated, bicycling and walking in the United States were equal to at least 7.6 billion motor vehicle miles, saving at least 370 million gallons of gasoline and up to 16.3 million metric tons of exhaust emission air pollution. CFC emissions were also lowered, reducing damage to the ozone layer.
  - Each bus passenger uses only 1/3 of the energy required by a person driving alone.
  - A car that gets 20 miles per gallon of gas uses all of that gas to get to a destination whether there is only a driver or passengers too. If four people share the ride, they have cut the gas usage for their trip(s) by 75%.

- *Health and Safety*
  - The American Lung Association says air pollution causes at least 50,000 respiratory illness cases a year nationwide.
  - Bicycling and walking contribute no pollution to the environment. People can usually walk or bicycle short distances. Short distance trips in the car are the least fuel-efficient and generate the most pollution per mile traveled.
  - Street and highway improvements that make it safer and easier to walk or ride a bicycle also reduce the frequency of certain types of motor vehicle crashes. Reducing speeds on roads has a positive impact on motor vehicle safety.
  - Four people in a carpool are responsible for only 1/4 of the carbon dioxide emissions they would cause if each drove alone.

Sources for *Key to Activity 6: Fact Sheets on Transportation:*

- U.S. Department of Transportation. *The National Bicycling and Walking Study: Transportation Choices for a Changing America*, 1994.
- Landrigan, Phillip and Herbert Needleman. *Raising Children Toxic Free: How to keep your child safe from lead, asbestos, pesticides, and other environmental hazards*, 1994.
- Urban Habitat Program, *Sustainability and Justice*, San Francisco: Earth Island Institute, 1995.
- Holtzclaw, John. *Using Residential Patterns and Transit to Reduce Auto Dependence and Costs*. Natural Resources Defense Council, 1994.
- U.S. Department of Transportation. *National Transportation Statistics*, Bureau of Transportation Statistics, Washington, D.C., 1996.
- Davis, Stacy and David N. McFarlin. *Transportation Energy Data Book: Edition 16*. Oak Ridge National Laboratory for U.S. Department of Energy, Oak Ridge, Tenn., July 1996.

Next Steps: Ideas to Extend Practice

1. Count back seven generations—or at least as far back as you can—to communicate with the seventh generation. When was that? It was more than 100 years ago. Find an elder and talk about how people did without modern conveniences (especially those now proven to be harmful: car, pesticides, packaging). Ask whether they thought about what they were doing in terms of generations to come. Consider seven generations into the future. What things do you want to do now to ensure a healthy future? Write a letter to your great-great-great-great-great-grandchild. Tell her what you are committed to doing today to help preserve the ecosystem for her. Choose whether to keep this letter private or to share it with friends and colleagues. Date it so that you will look at it one year from now. You will be able to celebrate your successes, revise your resolutions, and resolve to work on other areas.

2. Develop the activity that helped change transportation practices. Address another issue that people agree to research and to work on together toward change. Some suggested areas: garbage reduction, water or energy conservation.

3. Take a trip to explore an environmental issue in greater detail. Visiting a dump can be enlightening. Going to one of the "Hot Spots" from *Activity 1* will give you a better sense of what it is really like.

4. Adapt the *Activity 1: Hot Spots* into "Cool Spots." Ask participants to label the wonderful places in the community: a beautiful natural site, a great place for environmental education, or a place that has been reclaimed and restored from a previous toxic or undesirable condition. Is there a company or an organization doing really wonderful and beneficial things for the environment? Instead of planning how to change the problem, plan how to celebrate the "Cool Spot." Plan a picnic or a program wide event there. Take the children there often so that they can enjoy a highlight of their community. Consider what must be done to protect and preserve this area.

5. Recruit an environmental health professional to serve on your Health Services Advisory Board. Ask this person to help staff become more aware of environmental health issues through presentations at staff meetings and sharing resources on environmental health.

6. Investigate what elected officials in your area are doing about issues of concern to you or to your program. Communicate your concern to the officials.

7. Decide to investigate one of the laws listed in Handout J: Environmental Laws & Regulations. How is it applied or enforced in your community? Is it unknown? What benefits might come to your community if more people knew about this law?

Handout J: Environmental Laws & Regulations

1938 Federal Food Drug, and Cosmetic Act (last amended 1996)

1947 Federal Insecticide, Fungicide, and Rodenticide Act (last amended 1996)

1948 Federal Water Pollution Control Act–also known as the Clean Water Act (last amended 1988)

1955 Clean Air Act (last amended 1990)

1965 Shoreline Erosion Protection Act

1965 Solid Waste Disposal Act (last amended 1988)

1970 National Environmental Policy Act (last amended 1975)

1970 Pollution Prevention Packaging Act (last amended 1983)

1971 Coastal Zone Management Act (last amended 1985)

1972 Marine Protection, Research, and Sanctuaries Act (last amended 1988)

1972 Ocean Dumping Act

1973 Endangered Species Act

1974 Safe Drinking Water Act (last amended 1994)

1975 Hazardous Materials Transportation Act

1976 Resource Conservation Recovery Act

1976 Toxic Substances Control Act (last amended 1988)

1977 Surface Mining Control & Reclamation Act

1978 Uranium Mill-Tailings Radiation Control Act (last amended 1988)

1980 Asbestos School Hazard Detection and Control Act

1980 Comprehensive Environmental Response, Compensation, and Liability Act

1982 Nuclear Waste Policy Act

1984 Asbestos School Hazard Abatement Act

1986 Asbestos Hazard Emergency Response Act

1986 Toxic Release Inventory

1986 Emergency Planning and Community Right To Know Act

1988 Indoor Radon Abatement Act

1988 Lead Contamination Control Act

1988 Medical Waste Tracking Act

1988 Ocean Dumping Ban Act

1988 Shore Protection Act

1990 National Environmental Education Act

For use with Activity 2

Handout K: Home Situations

- **The Jones Family**

  The Jones family lives in a rural area, and their two small children have just enrolled in your Head Start program. You travel out to visit their home and complete your orientation with them. While you are sitting in their living room, you notice a strong odor that smells like sewage. You ask Mrs. Jones if she notices a funny smell and she says no. You continue your visit. When walking down the front steps from the porch, you hear a flushing sound from the back of the house, then you notice some water dribbling out from under the steps. You glance underneath the house and see a small pool that apparently contains all the wastewater and sewage from the house. You ask Mrs. Jones about this and she says it was too expensive to put in a septic system so her husband just set up this drainage place underneath the house.

- **The Alvarado Family**

  The Alvarado family recently enrolled their four-year-old daughter in your Head Start program. You have noticed that Hanna has many little bug bites on her body, which cause itching and discomfort. You ask her about those bites and she tells you there are lots of bugs at home.

  You decide to visit the home to determine how you can help. As you walk up to the house, you hear happy noises; it sounds like children and animals. You have not met Mr. Alvarado, but you know from Hanna's comments that he is a well-loved father. He greets you warmly at the door and ushers you in. He wants you to see the house and yard. Inside the house, you are amazed by the numerous children and animals, including several cats, a dog with six puppies, and a couple of white mice in a cage. In the back yard is a coop containing several chickens; suddenly another animal—maybe a raccoon—scoots away as you walk through.

  Mr. Alvarado tells you that some of the children and animals belong to his family, but others come from the neighborhood. Other parents, he tells you, are too busy working to play with their children and take care of animals. He takes them all in. He owned a farm in his native country and knows a lot about animals, so, he says, people bring their sick ones to him. He sometimes receives some money for his healing, but not much.

- **The Lee Family**

  Your Head Start program is in a large, densely populated city. You feel very lucky because you don't have to worry much about transportation; there are bus and streetcar lines close to the homes of most of your Head Start families. However, you have noticed that there is one family, the Lees, that arrives at all of the Head Start functions in a large car that always emits clouds of black smoke. Sometimes when you pick up Christina Lee, the baby in your program, you are sure you can smell gasoline fumes on her clothes. One day, you are visiting at the Lees' ground floor apartment when their older son drives past in the car, emitting, as usual, lots of black smoke.

For use with Activity 3

Handout K: Home Situations *(continued)*

- **The Jacobs Family**

  The Jacobs family has an infant in your program. They live in a migrant worker settlement with many other families with very young children. Mr. Jacobs mentions to you that he is worried about all of the trash in their area. The small children play mostly outside, and there just isn't much clean space. He invites you to come to their neighborhood because he wants to do something to clean it up.

  You visit their house and see that he is right. Trash cans are piled outside each residential unit; most are uncovered. Inside and around the trash cans you see lots of beverage containers, wrappers from fast-food restaurants, and disposable diapers that are leaking feces. There are indeed many small children playing nearby.

  Mr. Jacobs tells you the trash is collected every week, but it piles up. He wonders what he can do.

- **The Hansen Family**

  Your Head Start program is located in a coastal city. You have always taught the children about the ocean and gone on field trips there. Appreciation of the water's beauty and a commitment to protect the ocean are strong community values. Several of the Hansens' children have been in the Head Start program. You know the family well and you have enjoyed socializing with them whenever the opportunity permits.

  You pass by their house one afternoon on your way home. You stop to say hello to Rico, a high school student who once was in your Head Start program. Rico is working on a car, and, as you chat, he steps aside and pours a large container of oil into a storm drain in the street.

- **The Honea Family**

  Mrs. Honea is a single mother who is struggling to raise her two small daughters. She is an avid gardener, committed to good nutrition, and works hard to grow her own vegetables for herself and her children. The children spend a lot of time in the garden with their mom. She comes to you with a concern. Her next door neighbor is also a gardener. Unlike Mrs. Honea, the neighbor uses lots of pesticides on her plants. The neighbor grows mostly flowers. Mrs. Honea tells you that the neighbor puts out snail and slug pellets almost every day, puts mothballs in her lawn, and waters so much the water often runs down into Mrs. Honea's garden. The neighbor also sprays her rose bushes with some kind of pesticide every week.

  Mrs. Honea is concerned about what these chemicals might be doing to her garden. She wonders about the safety of feeding her children the vegetables that she grows. She has mentioned this concern to the neighbor but the neighbor says there is no problem.

For use with Activity 5

Handout L-1: Be a Common-Sense Citizen

Be a Common-Sense Citizen

On this 25th anniversary of Earth Day, EPA reminds parents and children, communities and companies to take a hands-on approach to environmental protection. Let's all take these common sense steps to promote a cleaner and healthier environment:

- Learn about your community's environment. Use your role as a citizen to learn what toxic chemicals are being released in your community, and what your community is doing to protect public health and the environment. Take advantage of information at your public library, at government offices, and at public meetings on environmental issues.
- Keep your part of the community clean—your street, backyard, car, and home. Reduce waste by recycling. Compost your yard and kitchen waste. Use alternatives to pesticides, and learn to store and handle them safely.
- Be a leader. Establish a recycling program in your neighborhood if none exists. Work with your neighbors to make protecting the environment a habit throughout your area. Encourage everyone to think how their actions affect the environment and health of others.
- Get involved. Ask your local officials what else can be done to protect public health and your community. Volunteer your time and talent to an environmental program.
- Participate in the public process that protects our communities. Ask your public officials for information on how you can take part in environmental protection.

In the 25 years since the first Earth Day, citizens have used common sense to help us achieve a lot of progress. But much more needs to be done. Take a hands-on approach to environmental protection . . .

EPA

The Earth Is In Your Hands

United States Environmental Protection Agency

April 1995

For use with Activity 4

Handout L-2: Be a Common-Sense Parent

Be a Common-Sense Parent

On this 25th anniversary of Earth Day, EPA reminds parents and children, communities and companies to take a hands-on approach to environmental protection. Let's all take these common sense steps to promote a cleaner and healthier environment:

Remember that your common-sense choices today can create a better tomorrow for all our children. Preventing pollution before it starts will protect both our health and the environment today and tomorrow.

Use everyday experiences -- at the dinner table, in the backyard, at the store -- to teach your kids the importance of protecting our health and our environment.

Make environmental protection a household habit. Reduce waste by recycling aluminum, paper, some kinds of plastic, and motor oil. Compost your yard and kitchen waste. Use alternatives to pesticides, and learn to store and handle them safely.

Save energy and water. Buy energy efficient appliances and use them wisely. Use energy efficient light bulbs, and turn off the lights when you leave a room. Put on a sweater and turn the thermostat down. Don't leave the tap running when you brush your teeth. Your everyday actions do make a difference.

"Precycle" products by buying in bulk which means less packaging, and less waste. Buy products made from recycled materials and bring your own bag when you go shopping.

Use your role as a parent to learn what toxic chemicals are being released in your community. Let public officials, companies, and your community know that you want to work with them to protect our children and our environment. And let your kids know that you care about the environment -- they're counting on you.

In the 25 years since the first Earth Day, parents all over the country have helped us achieve a lot of progress. But much more needs to be done. Take a hands on approach to environmental protection . . .

EPA

The Earth Is In Your Hands

United States Environmental Protection Agency — April 1995

For use with Activity 4

Handout M: The Environmental Balance Sheet

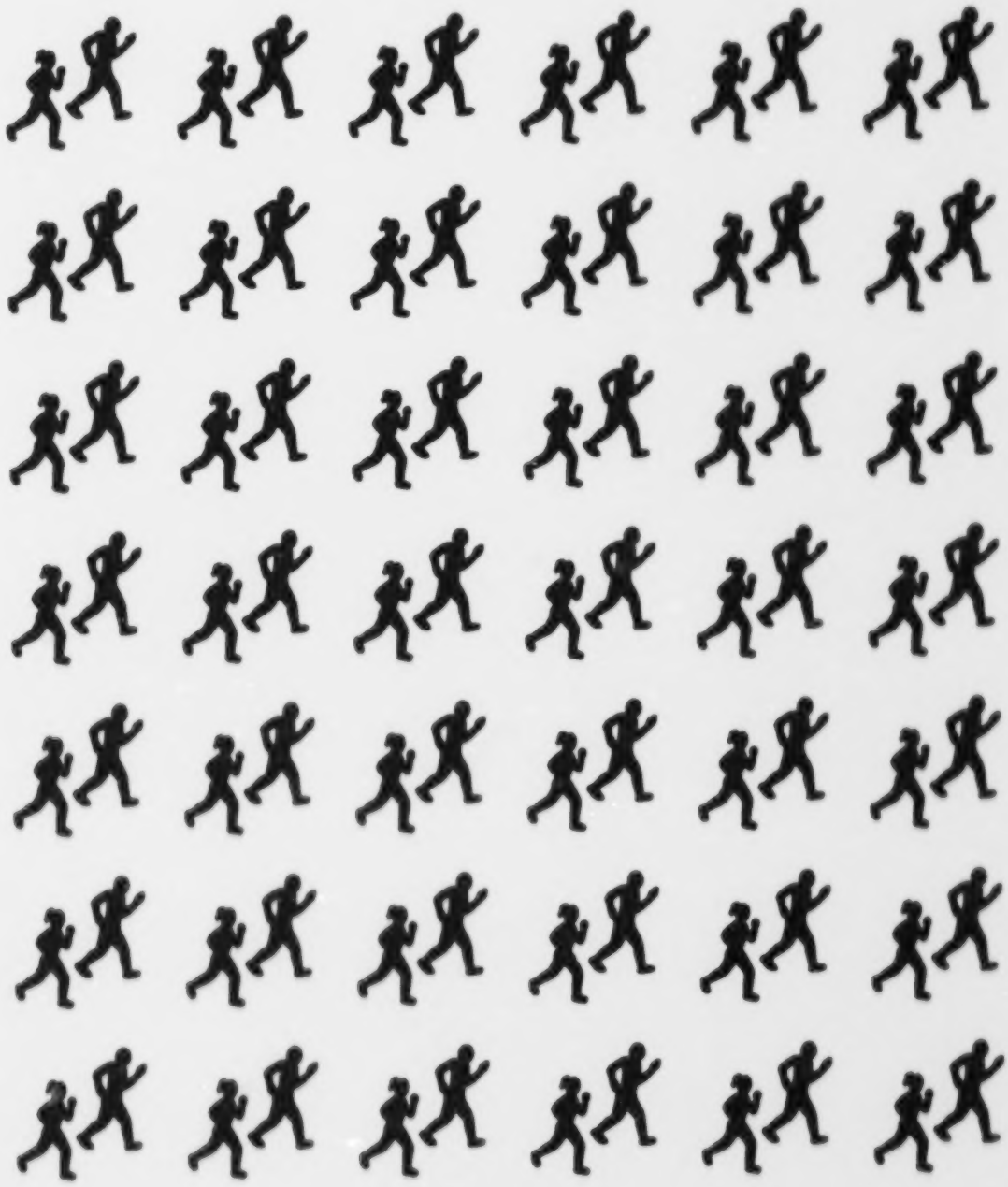
Product/Item: _____

Product/Item	Disposable	Reusable
$ Cost from Vendor #1		
$ Cost from Vendor #2		
How many times can this product be used?		
How much does it cost to use this in terms of staff time and effort?		
How convenient is it to use?		
How good is it to use? • structure, comfort • pliability, stiffness, etc.		
How is this product manufactured? Is the production process environmentally-friendly?		
What are the pros and cons regarding cleanliness and sanitation?		
How much garbage does using this product generate in a week?		
Where does the garbage go and what effects does it have?		
Is this product truly recyclable? (i.e., can it be broken down and the same product made again?)		

For use with Activity 5

Handout N-1: Getting There in a Better Way–Walkers

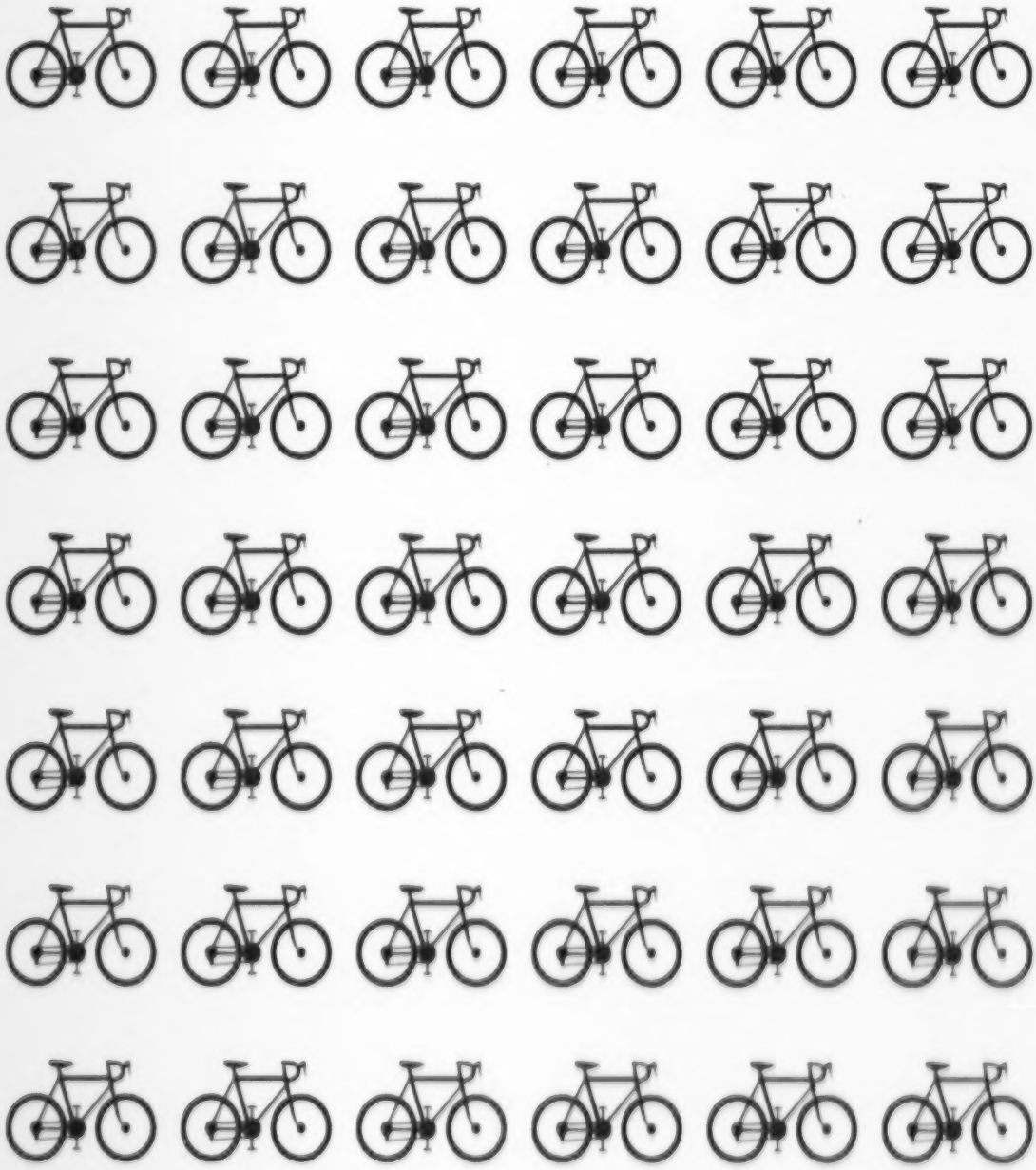
Copy this page onto a sheet of adhesive paper (i.e., Avery laser printer product #5165)



For use with Activity 6

Handout N-2: Getting There in a Better Way–Bicyclists

Copy this page onto a sheet of adhesive paper (i.e., Avery laser printer product #5165)



For use with Activity 6

Handout N-3: Getting There in a Better Way–Car Poolers/Public Transit

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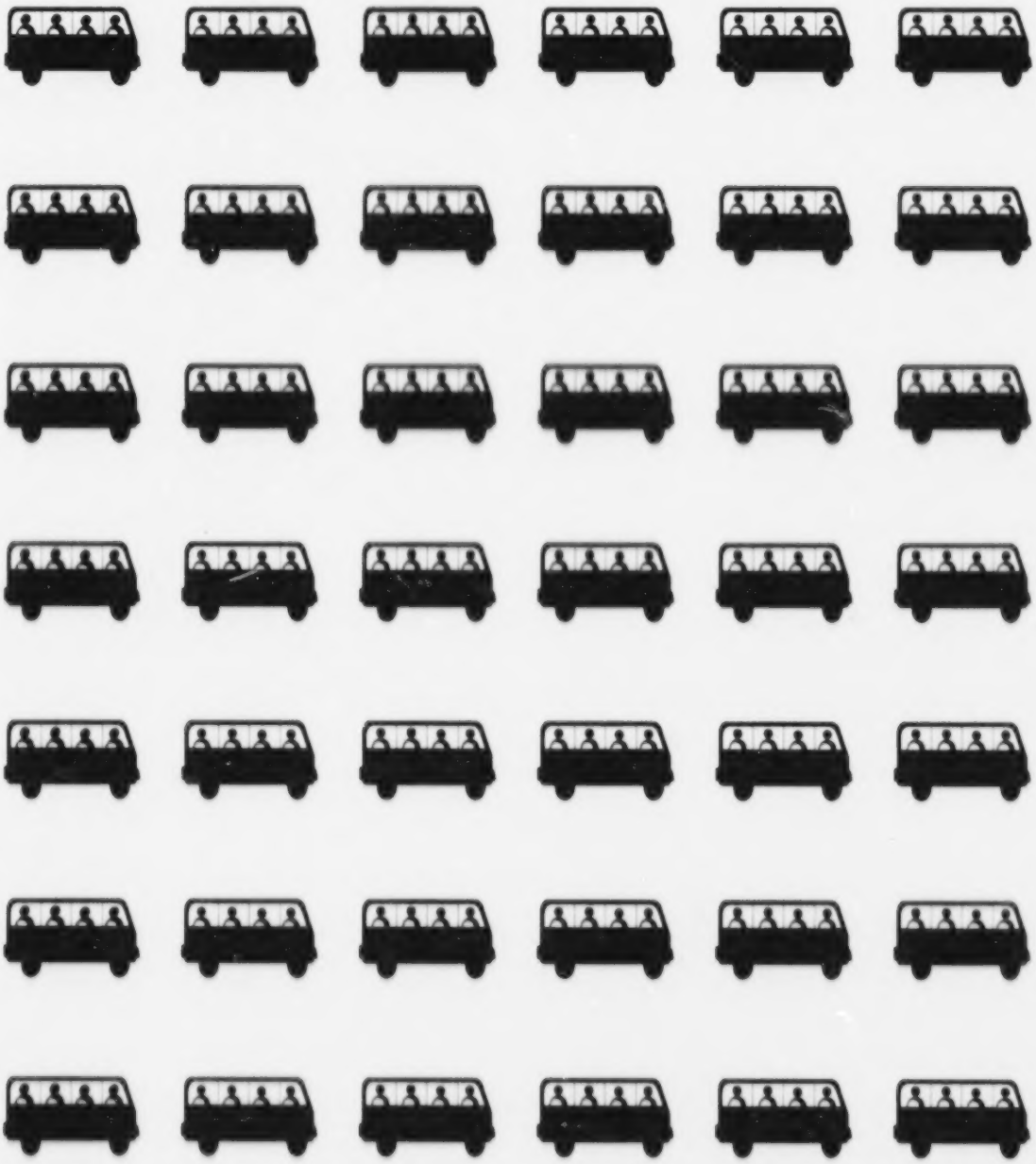


For use with Activity 6

1. Participate in state or regional conferences on environmental topics to increase knowledge and skills. Explore offerings on air quality, water quality, regional planning, or food safety.

2. Investigate the variety of groups which work on environmental issues in your area. These groups might be affiliated with churches, labor committees, or safe housing activists. You might also call one of the national groups to find out if a chapter exists in your area. Some national groups are:

   - National Wildlife Federation (Washington, D.C.)
   - Sierra Club (San Francisco, Calif.)
   - The Wilderness Society (Washington, D.C.)
   - Audubon (New York)
   - Greenpeace (New York)

   How can you develop skills in your chosen area while helping with environmental concerns?

3. Investigate the Small Grants and Community/University Partnership Grants programs from the Environmental Protection Agency, Office of Environmental Justice. The address of the office is:

   401 M Street SW
   Washington, D.C. 20460
   (800) 962-6215

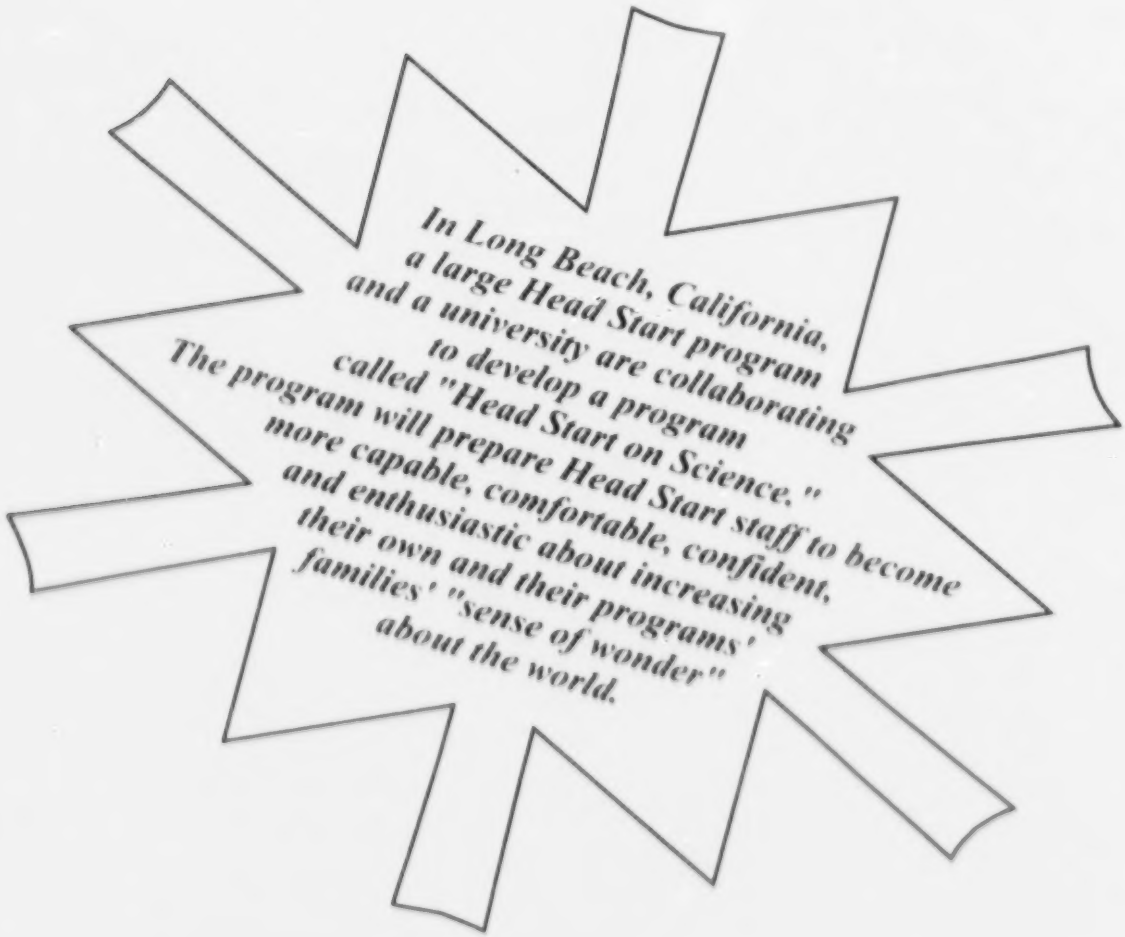
   Funds are available for both new and expanded projects that are educational, motivational and/or build partnerships among community groups working to improve environmental quality in disproportionately affected communities.

4. Participate in the continuing education program sponsored by the Agency for Toxic Substances and Disease Registry, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. They have an ongoing series of "Case Studies in Environmental Medicine" that includes pre- and post-tests and carries continuing education credits for a variety of health specialists. The information is written to increase the knowledge and

skills regarding specific toxics in participants who have a fairly high level of scientific or medical knowledge. For information on the case studies, contact:

Agency for Toxic Substances and Disease Registry
Executive Park, Building 4
1600 Clifton Road, E-33
Atlanta, GA 30333
(404) 639-6205

5. If there is a college in your area, ask whether it has an environmental studies program. There may be classes you can take as an extension student, or in pursuit of a degree.


In Long Beach, California, a large Head Start program and a university are collaborating to develop a program called "Head Start on Science." The program will prepare Head Start staff to become more capable, comfortable, confident, and enthusiastic about increasing their own and their programs' families' "sense of wonder" about the world.

Head Start Publications and Services

U.S. Department of Health and Human Services, *National Head Start Bulletin*: Issue #52. Washington, D.C.

This issue of the *Bulletin* focuses on environmental health, and includes articles on a variety of topics and resources for programs.

U.S. Department of Health and Human Services. *Head Start Facilities Manual*. Washington, D.C., February 1995.

This manual outlines a step-by-step process for assessing, selecting, constructing, and funding Head Start facilities. It contains many good suggestions for involving the local community and considering children's, families', and staff members' needs. Environmental issues are briefly noted. The checklists can be expanded to include greater consideration of environmental issues in the selection or construction of a Head Start facility.

Contact: Head Start Publications Center
P.O. Box 26417
Alexandria, VA 22313-0417
FAX: (703) 683-5769

Head Start Facility Referral & Information Service
(800) 303-0705 FAX: (301) 519-6760
E-Mail: Jallen@aspensys.com

The Head Start FRIS provides grantee and delegate agencies with information on issues related to facilities. FRIS will help Head Start programs to locate information for creating and/or maintaining quality physical environments. One category of resources listed on FRIS is "environmental hazards and pollutants."

Riley, Mary Tom. *Skill Building Blocks: Environmental Awareness*. Lubbock, Texas: Institute for Child and Family Studies, Texas Tech University.

This booklet is intended to raise the awareness of Head Start administrators, parents, and children about the problems we face because of pollution of air, water, and soil. It suggests activities that can be carried out, in the belief that there are things that we can do to "save the earth from ourselves." The booklet gives general ideas for administrators and specific thoughts for parent committee activities for fall, winter, spring, and summer.

Resources

The resources—organizations and publications—listed below are not all inclusive and do not necessarily constitute an endorsement, real or implied, by the Head Start Bureau. All must be considered within the context of the local community and the requirements of the Head Start Program Performance Standards.

General Publications

Balachandran, Sarojini, Editor. *Encyclopedia of Environmental Information Sources*. Detroit, Mich.: Gale Research Inc., 1993.

This 1,800-page book covers 1,100 topics. It is a thorough information resource for specific environmental health topics. The encyclopedia lists organizations involved with that topic, indexes, directories, and publications. It lists major environmental legislation and environmental departments for most states.

Contact: Local library

Community Alliance with Family Farmers. *National Organic Directory*. Davis, Calif., (published annually).

The directory includes more than 1,000 cross-referenced listings for commodities bought and sold, and names, addresses and phone numbers of organic growers and wholesalers. The directory is organized by state, so it is easy to locate suppliers in your area. While this directory does not list all of the organic growers in the country, it does give you a good start with some growers. It also includes explanations of the various state and federal organic growing laws.

Contact: Community Alliance with Family Farmers
P.O. Box 363
Davis, CA 95617
(800) 852-3832

Nabhan, Gary P., and Stephen Trimble. *The Geography of Childhood*. Boston, Mass.: Beacon Press, 1994.

Two fathers—a conservation biologist and a photographer—write a series of essays about the view of wilderness from children's eyes. The authors note that small children have less need for large-scale wilderness than for a garden, gully, or field to create a crucial tie to the natural world. Nabham and Trimble draw on their own experiences as children and parents, on the experiences of people in cities and suburbs, and on the rituals of indigenous people in rural settings.

Contact: Available at local libraries and bookstores

Quinn, Daniel. *Ishmael*. New York: Bantam/Turner Books, 1995.

This story describes an encounter between a human student and his teacher, who happens to be a gorilla. The teacher leads the student through questions about culture and behavior to an understanding of why human beings behave as they do toward other beings and the natural environment. The questions are provocative and the book would be an excellent springboard toward discussions about environmental values.

Contact: Available at local libraries and bookstores

Reid, Walter V. "Biodiversity and Health: Prescription for Progress," *Environment*. Washington, D.C., July/Aug. 1995.

This article gives a concise yet well-researched overview of the reasons why human and environmental health are closely linked. The author discusses the role of plants in pharmaceutical research, the importance of plant diversity to traditional medical systems, and how climate change is affecting human health. He suggests that researchers into human disease could learn much from studying how the world's flora and fauna have responded to disease. He advocates greater efforts toward public education and collaboration between the biomedical and conservation communities.

Contact: Available through local libraries or call *Environment* journal at (202) 296-6267.

Schoemaker, Joyce M., and Charity Y. Vitale. *Healthy Homes, Healthy Kids*. Washington, D.C.: Island Press, 1991.

This practical book was written for parents by two scientists who are also parents. It is more anecdotal than research-based, although there is plenty of reference material. The organization of the book makes it easy to find information on a particular subject of concern. There are five parts: The Healthy Playroom, The Healthy Yard, The Healthy Meal, The Healthy Nap, and The Healthy Cleanup. Each chapter within these five parts also includes a Resources section that is divided into "products and services" and "sources of information."

Contact: National Environmental Health Association
*(see **Organizations**)*

Resources

Environmental Education Resources

Acorn Naturalists. *Catalog*, 1996.

The catalog includes print materials, videos, and manipulatives—all designed to enrich environmental education activities. It includes resources for activities in the urban environment and suggestions for the caregivers of babies and toddlers, as well as a great deal of information for children in K-12 settings.

Contact: Acorn Naturalists
17300 East 17th Street, #J-236
Tustin, CA 92780
(800) 422-8886

Allen, Judy et. al. *Cultural Awareness for Children*. Menlo Park, Calif.: Addison-Wesley Publishing Co., 1992.

This book includes educational activities that have been used at The Learning Tree, a school in Texas with a commitment to multicultural education. The activities are written for use in preschool, kindergarten, and the primary grades. Although the activities cover a range of topics, useful information on the environment can be found in the "nature and science" sections. The book considers the following cultural heritages: African, American Indian, Chinese, Japanese, Korean, Mexican, Thai and Southeast Asian.

Contact: Available at local bookstores

Caputo, Michael J., and Joseph Bruchac. *Native American Gardening: Stories, Projects and Recipes for Families*. Golden, Colo.: Fulcrum Publishers, 1996.

This resource book, from the authors of the "Keepers of the Earth" series, explores the Native approach to gardening. It tells us that, in Native North America, a garden is not just a place to grow food. Tending a garden is one of the most important ways that people become a part of the "Circle of Life." Stories in the book lay the groundwork for understanding, and hands-on projects show readers how to continue the work of generations of Native farmers. The book includes step-by-step instructions for preparing a garden site, planting, harvesting, celebrating, cooking, and creating craft items such as gourd rattles and corn husk dolls.

Contact: Available at libraries, bookstores, or through Fulcrum Publishing: (800) 992-2908

Cohen, Richard, and Betty Phillips Tunick. *Snail Trails and Tadpole Tails*. St. Paul, Minn.: Redleaf Press, 1993.

This teacher's guide describes the process of setting up indoor mini-habitats for children three to four years old. The book gives practical information on constructing several different habitats, and tells the story of the children's experiences with the habitats and their animal and insect inhabitants.

Contact: Available from Acorn Naturalists
(see previous page)

Environmental Occupational Health Sciences Institute (EOHSI). *INFOsheets*. Piscataway, N.J.

These informational brochures provide an overview of specific environmental and occupational health topics. Each sheet costs less than $1.00 and some topics covered are: Children's Art Supplies, Home Use of Pesticides, Indoor Air Pollution, Radon, Plastics Recycling, and Community Noise.

Also available are environmental curricula for kindergarten through high school. While not immediately applicable to Head Start, the curricula provide concepts for adapting or ideas for transition activities to plan in conjunction with local schools.

Contact: Environmental and Occupational Health Sciences Institute Resource Center
681 Frelinghuysen Road
Piscataway, N.J. 08855
(908) 445-0110 FAX: (908) 445-0122

Kavasch, E. Barrie. *Enduring Harvests: Native American Foods and Festivals for Every Season*. Old Saybrook, Conn.: The Globe Pequot Press, 1995.

Food is where culture and environment meet and blend into social activities and celebrations. This book begins with the harvest season in September, and travels through the calendar and all over North America. Readers learn about the natural features of various areas of this continent, and about indigenous people and their ways of celebrating Earth's rhythms: the changing patterns of the weather and the availability of different foods at different times of the year. The book examines ancient as well as contemporary practices and includes recipes for foods enjoyed throughout North America.

Contact: Available at local bookstores and libraries

McQueen, Kelly, and David Fassler. *Let's Talk Trash.* Burlington, Vt.: Waterfront Books, 1991.

Subtitled "The Kids' Book about Recycling." This book is organized for use in circle time, with big headings and children's drawings about garbage. Parents might enjoy reading it to their children, too. The book asks questions about trash and invites children to share their thoughts on the issue. Space for drawings is included. The book describes the ways to reduce garbage, in order of preference: Reduce, Reuse, Compost, Recycle.

Contact: Available at local bookstores

The National Gardening Association. *GrowLab: A Complete Guide to Gardening in the Classroom.* Burlington, Vt., 1988.

For those who might not have outdoor space, this guide offers ways for kids to get involved in gardening and learn valuable lessons about food, life cycles, and the environment.

Contact: National Gardening Association
180 Flynn Avenue
Burlington, VT 05401
(800) LETSGRO

Ocone, Lynn, and Eve Pranis. *The Youth Gardening Book.* Burlington, Vt.: National Gardening Association, 1996.

This is a book about introducing gardening to kids of all ages and includes useful resource information, tips on garden planning, and experiments.

Contact: The National Gardening Association (see above)

Scholastic Productions, Inc. *The Magic Schoolbus Series.* New York.

The *Magic Schoolbus* books give children a delightful introduction to science. The books follow the adventures of Ms. Frizzle's elementary-aged class. Class members visit the waterworks, a volcano, the ocean floor, and the insides of the human body. The children are multicultural and very realistic: there is the class clown, the whiner, the junk-food junkie, etc.

Magic Schoolbus books have been adapted and expanded into a video series which is broadcast on local PBS stations.

Although the children are elementary-aged, the stories are easily understood and enjoyed by four and five year olds. For example, a preschool teacher used one book to explore the human body with four year olds in her class. Reading about Ms. Frizzle's class travels through the internal organs of a classmate's body helps preschool children make sense of their own bodies and inspires many fun and engaging projects.

Contact: Scholastic Productions, Inc.
555 Broadway
New York, NY 10012
(212) 343-6100

University of California Cooperative Extension Common Ground Garden Program. *Children's Gardens: A Field Guide for Teachers, Parents and Volunteers*. Los Angeles: U.C. Cooperative Extension, 1990.

This compact guide offers everything you need to know about setting up a children's garden, from design to activities for kids and adults. It provides hands-on suggestions for ways of incorporating gardens into education about the environment.

Contact: Common Ground Garden Program
2615 South Grand Avenue, Suite 400
Los Angeles, CA 90007

U.S. Department of the Interior. *Water: The Resource that Gets Used and Used and Used for Everything!* Denver, Colo.: U.S. Geological Survey, 1993.

This poster, with accompanying educational activity, is available without charge. Other free publications—posters and brochures on geology, water, mapping and earth science—are also available.

Contact: U.S. Geological Survey
Information Services
Box 25286, Denver Federal Center
Denver, CO 80225
(800) 435-7627

Wabash Area Development Inc. Head Start Program. *Harmony: The Season, the Sun, the Soil, the Water, the People*. Enfield, Ill.: 1994.

This 20-page booklet of ideas was put together by staff at the WADI Head Start program. They explore concepts of multiculturalism and suggest themes for activities for each month throughout the school year. They weave ideas about human cultures around the natural features of the different seasons: rain, falling leaves, harvest time, and April showers.

Contact: WADI Head Start
110 North Latham Street
Enfield, IL 62835
(618) 963-2387

Toxics, Risks, and Hazards

Carson, Rachel. *Silent Spring*. Boston: Houghton Mifflin Co., 1962.

If only for its historical significance, this book is worth reading. Some people consider it the catalyst for the environmental protection movement of the 1960s, which led to the formation of the Environmental Protection Agency and passage of a number of laws still in effect today. However, it is more than a historical book. It is an explanation of natural systems, written by a biologist, but accessible to a layperson. The examples of pesticides' toxic effects on wildlife and human beings are not technical and are emotionally engaging.

Contact: Available at local libraries and bookstores

Children's Environmental Health Network and California Public Health Foundation. *Protecting Children from Environmental Health Hazards: A Training Manual for Nurses*. Emeryville, Calif.: Children's Environmental Health Network, 1995.

There are several booklets in this set, and they cover a good range of environmental health issues and skills. Included are such topics as:

- Nursing Assessment of the Home for Environmental Health
- Hazardous Household Products
- Incorporating Environmental Health into Patient Histories

- Legal Rights in Environmental Health: Tools to Prevent Toxic Exposures

They are short enough to be read in a few hours.

Contact: Children's Environmental Health Network
5900 Hollis Street, Suite E
Emeryville, CA 94608
(510) 450-3818

Colborn, Theo et. al. *Our Stolen Future*. New York: Penguin Group, 1997.

The subtitle of this book is "A Scientific Detective Story." It tells of the efforts of one scientist, assisted by many others, to figure out why unusual and frightening health and behavior problems were pervasive among wildlife in the Great Lakes region of the U.S. The problems were not cancer, although clearly related to toxic chemicals. Ultimately, the scientists identify a great number of problems—worldwide—affecting the endocrine systems of animals and humans by interfering with normal hormone activity. The variety of chemicals used in insecticides, industrial building materials, and plastics may be causing infertility, immune system disorders, and learning and behavioral difficulties. The book is full of reviews of scientific studies and interesting stories of animal and human life. It concludes with recommendations for study, caution, and special efforts to assure that children's exposure to persistent toxins be kept as low as possible.

Contact: Available at local libraries and bookstores

Landrigan, Phillip, and Herbert Needleman. *Raising Children Toxic-Free: How to keep your child safe from lead, asbestos, pesticides, and other environmental hazards*. New York: Farrar, Straus, and Giroux, 1994.

This is a comprehensive book that features basic facts on environmental toxins, as well as information on the physiological systems they affect. The book describes children's special vulnerability to toxicants because of developmental and behavioral factors. Each chapter contains sections on "What Can Parents Do?" and "What Can Pediatricians Do?" which offer practical suggestions for protective actions. These suggestions provide a good balance between personal and community actions.

Contact: Available at local libraries and bookstores

Meadows, Robin. "Growing Pains." *Environmental Health Perspectives*. Vol. 104, No. 2, February 1996.

A great deal of information is packed into this four-page article. It begins with an overview of the differences between children and adults in relationship to environmental risk, and briefly reviews air pollution, pesticides in food, home pesticides, endocrine disrupters, hazardous waste, radiation, and electric and magnetic fields. It includes a special note of caution about poor and minority children.

Contact: Large local libraries or university and medical libraries

Rodricks, Joseph V. *Calculated Risks: Understanding the Toxicity and Human Health Risks of Chemicals in Our Environment*. Cambridge, Mass.: Cambridge University Press, 1992.

This book describes how scientists come to understand the toxic properties of chemicals—both naturally occurring and manufactured—and the health risks these chemicals pose. Biological and metabolic processes are described, as are tests that toxicologists use. The author does not advocate for more or less use or regulation of chemicals, but instead gives the reader a great deal of background information.

This book would be useful for anyone who wishes to know more about how chemicals affect human physiological processes, how "carcinogenicity" is determined, and what information goes into decisions to set exposure limits for certain chemicals.

Contact: National Environmental Health Association *(see **Organizations**)*

Wiles, Richard et. al. *A Shopper's Guide to Pesticides in Produce*. Washington, D.C.: Environmental Working Group, 1995.

The authors analyzed the results of 15,000 samples of food tested for pesticides by the Food and Drug Administration during 1992 and 1993. Then they developed a rating system for the different fruits and vegetables, considering the prevalence of pesticide residues found on the foods, and the neurotoxicity, endocrine-disrupting or carcinogenic properties of each pesticide. The booklet suggests alternative sources of vitamins and other nutrients found in the 12 foods they consider the most contaminated and risky.

Although it includes a good deal of technical information, the 46-page publication is organized simply and it is easy to glean the important information.

Contact: Environmental Working Group
1718 Connecticut Avenue, NW, Suite 600
Washington, D.C. 20009
(202) 667-6982

Communities Building Healthy Environments

Bullard, Robert, editor. *People of Color Environmental Groups*. Atlanta, Ga.: Environmental Justice Resource Center, Clark Atlanta University, 1994.

This directory lists more than 300 people of color groups from North America, including Mexico. It describes the history of the environmental justice movement and some current regulations, and tells the stories of several groups that have successfully worked for healthier environments in their own communities.

Contact: Charles Stewart Mott Foundation
1200 Mott Foundation Blvd.
Flint, MI 48502
(810) 766-1766

Bullard, Robert, editor. *Unequal Protection*. San Francisco: Sierra Club Books, 1994.

This collection of essays was written for anyone who is interested in environment and justice. Parts I and II describe the plight of poor communities of color who discover and struggle against contamination of their land, air, and water. Part III examines some of the emerging alliances, coalitions, and networks between grassroots and mainstream environmental and social justice groups. The writers describe the tragedy of racism as applied through environmental contamination, and celebrate the success of "rainbow coalitions" who have achieved some justice for those disproportionately affected by 20th century industrial processes.

Contact: Available at local libraries and bookstores

Rivkin, Mary S. *The Great Outdoors: Restoring Children's Right to Play Outside*. Washington, D.C.: National Association for the Education of Young Children (NAEYC), 1995.

Mary Rivkin has written a thorough book that discusses the philosophy of why children need the outdoors and what outdoors means in city and in rural areas. She describes the patterns of development and lifestyle that have deprived children of their right to play outdoors and offers suggestions on how to reclaim that right for them: through safe structures, conflict resolution on the playground, environmental education, and traffic-calming streets.

Although this book is focused on school-aged children in the primary grades, the philosophy, background information, and community change strategies would be applicable in Head Start.

Contact: NAEYC
1509 16th Street, NW
Washington, D.C. 20036
(800) 424-2460

Organizations

- National Institute of Environmental Health Sciences
P.O. Box 12233
Research Triangle Park, NC 27709
(919) 541-3484

- National Center for Environmental Health
Centers for Disease Control and Prevention (CDC)
Mailstop F28
4770 Buford Highway, NE
Atlanta, GA 30341-3724
(770) 488-7300

The preceding two organizations are the lead agencies for the environmental health section of **Healthy People 2000**, the national effort toward disease and injury prevention and health promotion. These two agencies are good places to start looking for information and activities related to environmental health.

- U.S. Environmental Protection Agency
Public Information Center
401 M Street, SW, MC 3404, Room M2904
Washington, D.C. 20460
(202) 260-2080

This federal agency's mission is to protect the nation's land, air, and water systems and it is responsible for the enforcement of most of our country's environmental laws. EPA also provides a great deal of

public education on environmental issues. Call the national office for the phone number of the regional office in your area, or check in the government section of your local phone book under U.S. Government.

- Toxic Substance Control Act
  Assistance Information Service Hotline
  (202) 554-1404

  The hotline provides technical assistance and information about programs implemented under specific laws related to toxic substances, lead, asbestos, and pollution prevention.

- Consumer Products Safety Commission
  Washington, D.C. 20207
  (800) 638-2772 – Hotline to report hazardous products or injuries

  Office of Information and Public Affairs
  4330 East-West Highway,
  Bethesda, MD 20814
  (301) 504-0580

  CPSC's mission is to protect the public from unreasonable risks of injury and death associated with consumer products. The commission was established in 1973. CPSC publishes a number of consumer information brochures, including several on indoor air quality.

- Children's Environmental Health Network
  5900 Hollis Street, Suite E
  Emeryville, CA 94608
  (510) 450-3818

  CEHN is a national project dedicated to pediatric environmental health. The network is the only national multidisciplinary and multicultural project in the country whose sole purpose is to protect the environmental health of children. CEHN's mission is to promote a healthy environment and to protect the fetus and child from environmental hazards. CEHN offers publications and conferences.

- National Migrant Resource Program, Inc.
  1515 Capital of Texas Highway South, Suite 220
  Austin, TX 78746
  (512) 328-7682

  NMRP's mission is to improve the health status of farm worker families through the innovative application of human, technical and

informational resources. The program has a library of publications, statistics, and newspaper clippings and offers outreach work by "consejeras," who take to the field to train workers on potential hazards such as breast or cervical cancers.

- Agriculture in the Classroom
  U.S. Department of Agriculture
  Room 4307-S
  Washington D.C. 20250-0991
  (202) 720-7925

  Each state has a coordinator for this program, originated by the U.S. Department of Agriculture. The program's goal is to help students understand the role of agriculture in the economy and society. AITC offers free materials such as coloring books, lesson plans (for elementary and high schools), maps, posters, photographs, slide shows, and films. Regular workshops and conferences are held for teachers. AITC can help arrange farm visits and agribusiness tours and supply news about local agricultural fairs.

- National Environmental Health Association
  720 S. Colorado Blvd., Suite 970, South Tower
  Denver, CO 80246
  (303) 756-9090

  NEHA represents all professionals in environmental health, including registered sanitarians, environmental health specialists, certified environmental health technicians, and certified hazardous materials professionals. Educational materials, publications, credentials, and meetings are available to NEHA members as well as to all professionals who work to improve the environment and to improve health and quality of life.

- Urban Ecology
  405 14th Street, Suite 701
  Oakland, CA 94612
  (510) 251-6330

  This nonprofit grassroots organization works on environmental issues by sharing information about model projects from around the world, and working to improve and maintain the health of urban environments in its local area. UE members hold the strong belief that cities can and should be vital, healthy, and exciting environments for children and adults.

- Food First–Institute for Food and Development Policy
  398 60th Street
  Oakland, CA 94618
  (510) 654-4400
  E-mail: foodfirst@age.apc.org

  The organization was started by Frances Moore Lappe, author of *Diet for A Small Planet*. It uses research, analysis, and advocacy to promote the kind of social change that could eliminate "the injustices of hunger." In addition to offering publications that seek to debunk myths about hunger, Food First aims to provide tools for change. They are active in promoting urban farming.

- Pesticide Action Network
  116 New Montgomery, #810
  San Francisco, CA 94105
  (415) 541-9140

  This organization works to eliminate poisonous pesticides. It mobilizes worldwide campaigns of consumer, labor, health, environment, and agriculture groups to advance safer, ecologically sound pest control alternatives.

- Mothers & Others for a Livable Planet
  40 West 20th Street
  New York, NY 10011-4211
  (212) 242-0100
  E-mail: mothers@igc.apc.org

  This membership organization administers a consumer education program that encourages choices of products that are safe and ecologically sustainable for current and future generations. The organization issues books, reports, and a number of fact sheets. It also publishes *The Green Guide* newsletter, which is sent to members 15 times a year and includes articles on environmental activities and advertisements from companies that share the organization's philosophies.

- American Lung Association
  1740 Broadway
  New York, NY 10019-4374
  (212) 315-8700

  This voluntary health agency advocates for clean air and services for those with lung conditions. They offer classes and educational materials on smoking cessation, asthma management, and air quality. There are local chapters throughout the country.

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